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"Irritable Heart—Causes and Treatment."

Read before the South Kansas Medical Society at Wichita, May 13, 1891.

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An ancient writer in depicting man diseased in his entirety declared that "The whole head is sick, and the whole heart faint." From the standpoint of medical men bearing in mind the functions of the brain, and that the heart is the fountain from whence flows the fluid of life, this portraiture is expressive in the highest degreee.

This paper is intended not to be exhaustive, but rather suggestive; nor does it attempt to deal with the physical defects of the heart, but with one of its modified conditions, viz.: "Irritability," the term "irritable" consigns the condition under consideration to the functional, as contrasted with the organic disorders of this organ. However, we are not unmindful of the fact that irritability is often associated with organic lesions, and that during the initial changes of structure incident to organic defects, this irritableness may be, and indeed, often is, present, before even a positive diagnosis of organic disease can be made.

Medical literature furnishes little or nothing on this subject prior to the last three decades; which periods have been especially characterized by more and more painstaking research and constantly increasing efforts at precision; nor have such labors been barren of fruit; for now the student of medicine, with increased fount of knowledge to draw from, and his perceptions sharpened by his forerunner's investigations and suggestions, may *know* the *knowable* as at no other period in the history of our lofty and beneficient healing art.

Some, there are, who object to the term irritable heart; claiming that the normal heart is irritable when adequate causes operate. Now this kind of irritability is a property of all muscular fibre; but the meaning intended to be conveyed to the mind by the term "irritable heart" as a disease, is an increased and *excessive* degree of irritability, under these exciting causes, and which manifests itself also in the absence of provoking causes; for instance during the night while in bed, and at other times, even in the sitting and recumbent positions. It also manifests itself upon taking moderate exercise by palpitations, intermittent and an unduly rapid pulse (tachycardia) so that the cardiac systoles often become more than doubled in frequency.

Etiology.—We would group the causes for convenience and system into five classes as follows:

First—Mechanical.

Second—Certain blood and vascular conditions.

Third—Muscular.

Fourth—Toxics.

Fifth—Neurosal.

Under the mechanical causes we would include displacements, due to a contracted chest cavity, the presence of fluids and gases in the thorax, mediastinal tumors, pericardial adhesions, &c. These produce disturbance by interfering with the free action of the organ.

The second class of causes embrace anæmia, hydræmia, the rheumatic and gouty diatheses, and atheroma. We believe that each of these causes are trophic; the first two affecting nutrition by reason of the paucity of red corpuscles, while the latter affects the nutrition of the organ on account of obstructive changes in the blood vessels limiting the entrance into the heart structure of a sufficiency of blood—a condition which may very appropriately be termed cardiac ischæmia. Dr. George Johnson, of King's College, London, several years ago, demonstrated that in the gouty heart the

muscular fibres of the cardiac arterioles were hypertrophied and that to such consequent diminished calibre of these vessels was due cardiac anæmia and palpitations. In cardiac atheroma, cardiac ischæmia and anæmia, also result from obstruction, and it has seemed to me, from a very careful and close study of one near to me, who has a rheumatic heart, that the same condition operates here as in the gouty heart.

Irritable heart is very frequently met with in the puerperal state. Now whether this condition is physiological or pathological, judge ye; investigation has shown, however, that there is found a cardiac anæmic murmer in seventy per cent. of women in this state. Our concluding remark in connection with each of the causes included in this class is one that we are assured you will all endorse, viz.: that whatever robs an organ of its proper nutrition, lowers its tone, and disturbs its function.

Following diseases accompanied by high temperatures, and others which in their nature are exhaustive, there is sometimes found a condition of the heart which might be named muscular asthenia. This enfeeblement is manifested by intermittency of pulse. We had such a case this winter caused by a severe attack of the grippe. Over work under rest, snch as is seen in a high pressure life, where the heart is kept pumping two to four hours each day after labor should cease and the horizontal position be assumed. The chief danger is that dilatation may ensue from the oft repeated strains, after the organ has become enfeebled.

Under the fourth class of causes we would include certain conditions and agents which when continued for a longer or shorter period of time exert on some constitutions, at least a decided toxic effect. Perhaps you have all observed marked rhythmic irregularity of the heart in cases of chronic constipation, and how quickly the troublesome symptom subsided when the constipation was cured and the blood in consequence, became depurated. Sewer gases are generally considered poisonous in proportion to the proximity of the sufferer. The breathing of an impure atmosphere as in overcrowded and ill ventilated houses, produces palpitation, and irregularity of pulse particularly in the feeble.

"Saltet & Kronacker found in their experimentations that serum completely saturated with carbonic acid exhausted the heart."

The habitual and excessive use of tea and coffee is fruitful in the production of irritable heart. Alcohol drinkers even before hypertrophy is demonstrable, often have the same trouble. But we believe that there is no other poisonous agent so fruitful in producing cardiac irritabtlity as tobacco. Several years ago Decaisue called the attention of the profession to the fact that tobacco smoking often caused intermittency and irregularity of the pulse. Cut of upwards of eighty great smokers examined, more than twenty-five per cent. of them had intermittent and irregular pulse and palpitation. Upon the abandonment of the habit the heart disturbances disappeared; but until the habit ceased, treatment was unavailing.

Of the twenty-five men composing the Greely Artic expedition several years ago, eighteen used tobacco, every one of whom died. Seven did not use tobacco, only one of whom died and he the last of the nineteen. This fact is only alluded to to show the depressing effect of the narcotic upon the vital energies.

Dr. Zeigler, in the sanitarium, some time ago, stated that the effect of tobacco on the heart was to cause diverse derangements among which were feebleness, fluttering and intermittency. The *use* of tobacco is now prohibited in the United States Naval Academy at Annapolis and in the United States Military Academy at West Point. Dr. Gihon of the United States Navy, in giving the result of his observation said in substance, as published by the *Medieal and Surgical Reporter*, that tobacco leads to impaired nutrition of the nerve centres; that it causes an intermittent pulse; and that one of its conspicuous effects is to *develop irritability of the heart.*

The fifth and last class of causes we would denominate "Neurosal;" and first among these is to be mentioned the hysterical diathesis. Functional irregularty of the heart is the rule in these cases. Then there are reflex causes, due principally to two factors, viz.: utero-ovarian and digestive derangements. In

the great majority of cases of functional disorders of the heart coming under our observation we have noted either gastric or intestinal indigestion. These dyspepsias were usually atonic in type. In several instances these intestinal troubles were associated with hepatic derangement. One of the most potent causes is all those conditions which contribute to produce what our fathers termed nervous exhaustion but which more modernly has been denominated neurasthenia; e. q. anger, anxiety, pain, masturbation, excessive venery, insommia, irregular habits of life, and everything which exhausts nervous enery. Occupation, in which large demands are made upon the emotional nature as ministers of the gospel during protracted revival meetings; and the physician called upon, as he is, if at all sensitive and sympathetic to frequently experience very trying ordeals. I think you will all bear me out in the statement that in proportion as mankind becomes highly civilized, sensitiveness of organization increases, and that there is paid a penalty in the greater influence which depressing emotions have upon the nerve centres; all of which is exhaustive of nervous energy. Excessive mental work particularly during student life, when the nervous fibre is tender and the susceptibilities keen tends to produce this condition of exhaustion and a consequent nervous trouble of the heart. We have treated some cases of this nature during the past year in which under appropriate measures the neurasthenia was relieved, as was also the palpitating and irregular heart action. Fothergill instances the case of a medical student who when asked a question the answer to which required thought, suffered immediately with an intermittent pulse and an irregular cardiac rhythm. We have perhaps all observed how acute and chronic naso-pharyngeal catarrh, leucorrhœa, spermatorrhœa and frequent involuntary seminal emissions debilitates patients thus afflicted, and often disturbs the heart's action. These discharges represent a heavy leakage of phosphates from the system.

The innervation of the heart, as you will call to mind when the fact is stated, is twofold—extra-cardiac, and intra-cardiac. The extra-cardiac innervation is that which is exerted by the cardiac plexus, which is composed of branches from the pneumogastric, a twig from the external branch of the superior laryngeal; branches from the cervical ganglia and the first thoracic ganglion of the sympathetic; and sometimes a twig from the descending branch of the hypoglossal. The intra-cardiac innervation is that which proceeds from the nerves and ganglia which are situated in the structure of the organ, and are termed the "automatic motor centres of the heart." It is very generally conceded by modern physiologists that the nervous centres which excite the movements of the heart and maintain the rhythm of these movements lie within the heart. In support of this position and apart from the demonstrated existence of numerous intra-cardiac ganglia, the fact is adduced, which we have all observed, that if the heart be removed from the body it still continues to beat for some time; and that after its movements have ceased, the application of nutritive fluids along with oxygen, its activity is revived. We refer to these anatomical and physiological facts, in order to prepare the way for the expression of a firm rooted belief that the long continued overaction of the heart, from whatever cause, is liable to, and probably does *exhaust* and derange this intra-cardiac innervation including at least a portion of the sympathetic nervous system, which when accomplished leaves the heart, so far as its self-regulating mechanism is concerned, in very much the same condition as that of a man with a self induced enfeebled will; for when he should wont he will and when he should will he wont. So *uncertain and uncomfortable and inconvenient* is an irritable heart.

TREATMENT.

The physician having ascertained that there exists no organic trouble should assure the patient of that fact. Such assurance will tranquilize his feelings and inspire hope. The patient should then be encouraged to maintain a uniform calmness of feeling through the appropriate exercise of mental control. In the event of nervous overaction of the heart induced by sudden emotion or excitement, perhaps no device will restore equilibrium of feeling and circulation like slow deep breathing, and yet even this will not always be im-

mediately successful; though it is none the less worthy of trial.

On general principles, it will go without saying, that, the successful treatment of disease must have due regard to causes. This is especially true regarding irritable heart which is largely if not wholly symptomatic; hence, when dependent upon pressure and displacement, effort must be directed to the cause rather than to the symptom. So also must the treatment of the second class of causes be directed toward the blood and vascular conditions which give rise to the trouble, hence, anti-anæmic, anti-rheumatic and anti-lithiatic remedies will be respectively indicated. Should there be reason to suspect atheroma of the cardiac blood vessels I would employ trinitrin in one or two drop doses, of a one per cent. solution, three times a day. This remedy, you will remember, produces a temporary vaso-motor paralysis of the arterioles, during which condition their calibre is enlarged, thus improving the nutrition of the cardiac muscle because of an increased supply of blood. Though we have never tried this remedy in gouty heart, we *purpose* doing so when an opportunity presents itself; but we have prescribed it in rheumatic heart troubles, i. e., functional, with happy results. Not infrequently the dentist by removing old snags and supplying plates of teeth that are not subject to odontalgia has done more for relief of anæmic patients, than our best formulæ were able to accomplish. A plain nutritious diet, well cooked and masticated, is indispensable.

The treatment for muscular feebleness, must include a liberal allowance of rest, alternated with regular, not severe, exercise. We would be afraid of Oertel's method of mountain climbing, which he so strongly advises, for weak hearts; preferring, on the contrary, more moderate exercise. As therapeutic agents for this condition, iron, nux vomica, ergotine and the chloride of barium in pill form, have given us the most satisfactory results. A very good formula for the above is the following:

℞. Ferri Sulph. Exsic. ℈ijss.
Ext. nucis vomicæ gr. xiij.
Ergotine ℈ijss.
Barii chloridi gr. x to xxx.

M. Fiat Pill No. 50. Dose, one after each meal.

The double salt of gold has also given very satisfactory results.

The management of irritable heart caused by the fourth class of causes, viz.: toxics, requires the habitual depuration of the blood, by curing the constipation if this has been the cause, and the securing of proper ventilation if this has been imperfect, while the safest as well as the most rational way of successfully managing those cases, where tea, coffee, or tobacco, etc., etc., may have induced the cardiac disturbance, is to establish a watch-word of four letters: D O N 'T!

In the treatment of the fifth or neurosal class of cases a large proportion of which are caused by exhaustion, it is all important to ascertain the cause and source of leakage or excessive expenditure of nervous energy, and then remove it. Sometimes a protracted rest will result in recovery even without medicine; but this is not always possible; and if not, then the patient should be urged to work with great moderation, and to cease work when tiredness begins to be experienced. In a certain proportion of cases it will be found that the heart derangement is not aggravated or perpetuated by a present excessive draft upon the nervous energies, but is kept up by reason of the fact that a damage sustained by the nervous system in the past has simply failed to be repaired; the nerve hunger remains as does also the cardiapathy. We have learned at the school of experience that heart tonics and nerve tonics are of themselves inadequate to relieve this condition. A spur may reanimate a jaded horse but is he stronger or the better rested after such temporary reanimation has ceased to operate? The same reasoning obtains relative to the condition under consideration. What is needed is rest, a good, plain, wholesome diet, (advice against overeating) fresh air and sunshine, and suitable nerve food, with a view to improving the quality of the blood and nutrition of the nerve centers. Yet in many cases where these conditions are supposed to be met (mistakably so, however) still satisfactory improvement does not take place, for the reason that that which was lost has never been restored, viz.: a sufficiency of phosphorus in the system to generate nervous energy by which the necessary innervation of

the digestive organs may enable digestion to be normally performed; thus putting the system in a condition to repair both the damage already sustained besides supplying the wear and tear incident to work. Thus will nerve hunger be satisfied, and the nervous exhaustion relieved, and thus will the heart regulate itself; all through the rational means of *rest* (moderate exercise not being prohibited) and *nutritition.*

Upon what remedy is reliance chiefly placed to restore nervous energy? Phosphorus. In what forms is it usually prescribed? Dilute phosphoric acid, acid phosphates, phospide of zinc and a syrup of the hypo-phosphites. What is the chemical composition of the phosphoid tissues of the brain? P. O. In what condition is phosphorus eliminated from the system as found in the urine? $P\ O_5$. What is the chemical formula of dilute phosphoric acid? $H_3\ P\ O_4$; of the acid phosphate? $P\ O_5$; of the hypo-phosphites in syrup? P O., if fresh and hermetically sealed; but Prof. Percy, has shown that when a bottle of the syrup of hypo-phosphites is opened, both the syrup and the hypo-phosphites absorb oxygen so that in a few days the chemical composition becomes changed to $P\ O_5$. As the former viz.: P O., he argues, it is found in the brain, as the latter viz.: $P\ O_5$, in the urine.

In the experience of the writer no preparation of phosphorus has been at all comparable, as judged by results, with the vitalized phosphite as prepared by Crosby, after the formula of Dr. Percy, which in his prize essay read before the American Medical Association, he gave to the profession. In his essay, he showed that the phosphoid nutrient of the brain was not a phosphate but an alkaloid hypo-phosphite; identical with which were these vitalized phosphites. It must therefore be apparent to all that the chemical composition of the phosphorus preparations most commonly employed, (zinc phosphide excepted) are either identical or very nearly so with the phosphates when eliminated as effete matter. And yet these acid preparations often render good service; but the probable explanation of such utility lies in the fact that they relieve the gastric and gastro-duodenal catarrh so commonly associated with nervous disorders, and thus improve the appetite as well as digestion; while the hypo-phosphites are of undoubted service while fresh and before the syrup has absorbed oxygen.

Ferric bromide—$Fe_2\ Br_6$., in doses of three to five grains in syrup gives excellent results both as a sedative and as hæmatic. A Belladonna plaster worn over the region of the heart is soothing and helpful. Sleep, restful, refreshing and restoring sleep, without which not very much permanent benefit can be secured should be obtained; but preferably by means of bathing, massage, and hot pediluvia upon going to bed, together with the use of a hop pillow, rather than by hypnotics. A glass of milk upon retiring is conducive of sleep. An avoidance of circulatory excitants is all essential; hence would urge the non-use of tea, coffee and stimulants together with the suppression of the emotions within due bounds.

If the horizontal position can be assumed during ten or twelve of every twenty-four hours, the patient as a rule will improve correspondingly fast.

We have omitted to mention or advocate digitalis, strophanthus, cactus grandiflora, lily of the valley, etc., etc., for the reason that we have never obtained any benefit from them in any of these nervous derangements of the heart.

In acute exhaustion the preparation of coca and claret wine are admissible, and indeed serviceable in strengthening the heart's action, but would not use them except in urgent cases and for a limited period. Fresh air, sunlight, rest, sleep, bathing, plain nutritious food, electricity, etc. These are the agents to be relied upon as conducive to permanent beneficial results.

Now concerning treatment may I observe that success or failure will be very largely determined by right or wrong conceptions relative to this class of cases, and the place which medicine shall occupy. If we have no faith in medicine we shall fail. If we have all faith in medicine to cure and neglect moral and hygienic measures we shall likewise fail. If our horizon be narrow so that we can see nothing but a disturbed cardiac condition we

shall fail also. But if per contra, our horizon be broad in which the functional disturbance will be seen in its true relation to other casual and existing conditions, and are conscious of our resources—in such proportion will our success usually be measured.

In conclusion permit me to enter a plea in behalf of this class of sufferers, that we shall not regard theirs as imaginary or unimportant ailments, turning a deaf ear or unsympathetic heart thereto, but rather, never to lose sight of, or forget, the duality of their existence, viz.: a mental which needs exercise, food, and due care; also an animal, which if restored to health, may be a source of great power and utility to the former; but which if neglected or improperly treated may remain a continuous incubus, a clog, and a barrier.

Germicidal Powers of Living Cells and Antiseptic Surgery.

Read before the State Medical Society at Wichita, Kansas, May 13, 1891.

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CHAIRMAN OF SURGICAL SECTION OF KANSAS STATE MEDICAL SOCIETY.

In selecting a subject for my address as chairman of the surgical section of this society, I have, I know deviated from the regular custom by not writing in detail the progress made in this department during the year. Yet I am sure ere this section completes its labor, this session, that all the new grounds will have been gone over by its members, as you can see by examining the programme.

All animal substances will, under favorable conditions, become putrid. These conditions are warmth, moisture and the presence of living bacteria and micrococci. If any one of these factors is absent the animal substance will not decompose or ferment.

A wound in living tissues presents an excellent locality for the growth and development of these micro-organisms. The surgeon now knows that no atmosphere whether that of mountain or of sea is absolutely free from putrefactive germs and that the air of hospital wards and sick rooms is particularly loaded with organic matter of all kinds and with microbes in abundance.

From these well known facts has arisen what is known as the antiseptic treatment of wounds. These microbes find a *suitable* location for development and growth never fail to avail themselves of the opportunity, and multiply with great rapidity, producing, soon, decomposition and the necessarily poisonous ptomaines to be absorbed, giving rise to septic fever and if the primary focus is allowed to remain as a bacterial hot bed the fungi will invade the surrounding tissues and even enter the circulation producing metastatic abscess in far and remote organs. Thus transforming a primarily and often trivial local lesion into a general and dangerous septic fever leading to a protracted illness attended by much suffering and ending in the majority of instances in death.

Chemical sterilization by substances destructive to these microbes, (germicides) is the basis of aseptic surgery. These substances not only prevent the entrance of the germs while operating by washing them out of the field of operation by irrigation (asepsis) but destroy those remaining in the wound with which they come in contact (antisepsis),

"*Absolute asepsis can only be secured by strict antiseptic measures—surgical cleanliness is more than ordinary cleanliness.*"—SENN'S *Principles of Surgery.*

The surgery of to-day owes its eminence to the fact that we properly interpret the cause of inflammation and by judiciously employing measures (antiseptics) prevent its development in our operative wounds.

All surgeons have frequently seen a most destructive inflammation follow slight injuries, not due so much to the wound itself as to localization and multiplication of poisonous microbes where the necessary conditions for their development and multiplication is to be found.

That a linited number of pathogenic bacteria may be taken into the general circulation and not produce metastatic abscess and systemic infection is a fact undisputed. The eliminative power of the excretory organs are frequently taxed to their utmost ability as the

old so-called critical discharge is nothing more than an effort on the part of nature to eliminate poisonous microbes circulating in the blood. An other one of nature's defensive agents is called upon to wage war with the intruders—I refer to the function peculiar to the living cells, enabling them to destroy pathogenic germs—phagocytosis.

The cells capable of performing this function are the leucocytes, endothelia of blood vessels, connective tissue cells, etc.

In some surgical diseases the pathogenic germs multiply so rapidly that the destructive powers of various cells are over taxed and the patient succumbs from the effect of the systemic infection. Erysipelas, pyæmia, etc., as a type.

Where we are dealing with an aseptic cavity like the peritoneal, (which is known to have great absorptive powers) and a limited number of septic germs are introduced, this membrane rapidly absorbs them and they are destroyed by this destructive or digestive process of the living cells called phagocytosis, while if a larger amount of septic matter is allowed to remain in the peritoneal cavity, the absorptive function of the peritoneum is paralyzed, so to speak, by being over-taxed and the germs find in this locality everything favorable to development and rapid multiplication—septic peritonitis is the result.

The surgeon of to-day instead of putting the bowels in "splints" with opium, administers saline cathartics the moment any indication points to the development of peritonitis, for the purpose of producing free watery discharges from the bowels and thus aid nature in getting rid of these poisonous germs by the eliminative power of the intestines. There is an underlying principle to all this and the motive is in direct line of antiseptic and aseptic surgery.

In operating intraperitoneally, use every antiseptic method in the preparation of the patient in order to secure an aseptic wound, and to keep the wound fresh and sweet put on an antiseptic dressing.

I believe the peritoneal cavity has a greater power of resisting the injurious effects of pathogenic bacteria than any other part of the body lined by a serous membrane. This fact I believe is due to the rapid absorptive function of the membrane, its close proximity to one of the greatest eliminative organs (the intestines), and to the great destructive powers of the wandering corpuscles and other cells, all these forces combining to prevent the local propagation and rapid multiplication of the microbes. Yet when these germs are in power, supreme, there is no part of the body where their deleterious and destructive manifestations are more quickly noticed than in the peritoneal cavity. Here you have a large cavity with all surroundings favorable to rapid growth of germs, the peritoneum absorbing the poisonous ptomaines, and the reparative cells have other duties to perform are finally destroyed by these intruders and with the rapidly incubative power of this large bacterial hot bed the germs multiply within a short time to such an extent as to change the cavity into a large abscess, and now the only treatment is to *open it*, let out the pus, wash out the cavity with antiseptics and keep it washed out, and thus destroy the local multiplication of the fungi and by so doing prevent farther systemic infection.

I believe those operators claiming that they use no *antiseptics* in abdominal surgery, may with justice, to this power of the living cells, I have briefly mentioned, give the credit, of brilliant results and not to the fact that no microbes gain entrance and are lett there.

The method of operating aseptically (?) by using *boiled water* irrigations quite hot, boiling water over instruments, shaving parts, washing with caustic soda, etc., removes the majority of the germs and those remaining *if limited* and the *peritoneum* is in comparatively physiological condition, are destroyed, (after being absorbed) by this process.

It is a well known fact that the use of antiseptics in treatment of wounds not only prevents suppuration but diminishes the number of cases of tetanus, gangrene and erysipelas. In treating old suppurating joint lesions the healing process is hastened and systemic infections prevented by antiseptically dealing with the case while operating. We all know that a chronic granulating surface acts as a bar to the absorption of septic matter in poisonous quantities, and have seen

systemic infection follow the disturbing of the same, by converting it into a rapidly absorbing surface. This can be arrested by the use of thorough antisepsis while operating.

The failures in the use of antiseptics to get the desired results are never due to the underlying principle but to the fault of the operator in not observing and carrying out the principle in its fullest details. There is, strictly speaking no "partly" antiseptic method of treating wounds during and after the performance of an operation; if not complete, septic germs are sure to enter and then it is a question which will gain the victory, the cells or the poisonous microbes. A dangerous venture on the part of the surgeon to make, better use a certainty—*an aseptic way is the only result of carrying out an antiseptic system.*

The chemicals used in antiseptic surgery are many. It is not necessary for me to state that carbolic acid is no longer used in abdominal surgery. Bi-chloride of mercury is inadmissible, from its poisonous effects, in the peritoneal cavity. Clean surgery is a misleading term and admits of too much latitude in its practical application. Cleanliness as a term such as we apply to our daily toilet is far from being surgically clean. In all my operations I carry out to a letter the principles of antiseptic surgery, and I assure you when I see a bad result (suppuration, stitch hole abscess, etc.,) the condition suggests to my mind that a few of the minor (?) details have been neglected.

I have not had an operation wound in my practice suppurate in two years, where I have had continuous care of the case after operating, and I can foretell almost to a certainty if a wound left in the hands of another is going to suppurate by getting his views on the management of wounds by antiseptic procedures.

I have written nothing new, I did not expect to, for then as now I shonld find advocates with words of praise lauding the other side of the question. The object of medical societies is to discuss mooted questions.

DEDUCTIONS.

First—Aseptic surgery is antiseptic principles thoroughly carried out.

Second—Nature is capable of taking care of a limited number of pathogenic germs by a destructive and eliminative process.

Third—The peritoneal cavity is capable of destroying and tolerating more septic matter than any other cavity lined by a serous membrane, by its rapid absorptive power removing the germs thus preventing the development of a local bacterial hot bed.

Fourth—We find a special indication for the thorough use of antiseptics in operating on surfaces covered with granulation tissue, and in old abscess cavities lined by a pyogenic membrane.

The Expert Witness—His Legal Rights and Remedies.

Read before the Eastern Kansas Medical Society, at Topeka, Kansas, April 14, 1891.

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In the course of the administration of justice by tribunals exercising judical functions, it has long been customary for the purpose of securing more exact foundations, to call to the aid of courts and juries the assistance of men learned in law, the better to unfold its truths and apply its principles.

In the manifold relations of mankind it often occurs, since the great advance in the arts and sciences, that a conflict of will is based upon lines of human conduct of which the judge upon the bench, the jury in the box, the counsel at the bar,are alike ignorant, all unacquainted with either the details of the science or the technique of the art. Similar in function therefore is the individual called upon to supply the requisite knowledge, to elucidate a subject, and to give opinions based upon hypotheses; whether he be mechanic, artisan, physician, or an interpreter of another tongue, his mind's eye should be set upon truth, and a higher plane should he occupy than counsel; he must be strictly non-partisan, justice and truth must be his client, and his retainer the state.

This ideal standard and this ideal relation which an expert witness should sustain is far alas, from the real. Any question, the solution of which contemplates the advancement of

the common lot of man, before it can be crystalized into law, must exist as the ideal, the ethical; when once it becomes law it is political. Hence ethics constantly furnishes the ideal to which politics must always advance, but which, on account of the imperfections of ends and means, it can never reach. Much therefore now exists and is considered sound which is at variance with our moral convictions, and prominent in the list is the plan of procedure in our courts which permits a litigant to direct who shall be called as experts when the need of such assistance is apparent, for in such cases the so-called expert is likely to become a partisan, and his opinion biased in the interests of his retainer. Thus, in the place of experienced, skillful and scientific witnesses who could afford essential aid to courts and juries, there are often called unskilled pretenders, quacks and mountebanks, who assuming the character of experts not infrequently serve to becloud, and lead to erroneous conclusions. Would it not be considered strange if a litigant was allowed to select a partisan judge, before whom his cause should be tried? Why then should he select the court's instructor? We maintain therefore that it is one of the ethical rights of an expert, when called to give opinions in court, that his mind shall be free, that he shall not be retained by either side, and better were it if he were a stranger to all concerned, in that, "he may speak forth the words of trnth and soberness" and science as well.

An expert is defined as being a person possessed of peculiar skill and knowledge upon the subject whereon he is required to give an opinion. It is a well established custom to consider physicians and surgeons of practice and experience to be experts in medicine and surgery, and their opinions are admissible in evidence upon questions that are strictly and legitimately embraced in their profession and practice. The most common imposition upon the rights of physicians in this relation is the custom of attorneys of having them subpœnied as experts and advising them that they are obliged to attend and *testify* as such, with no other compensation than the common witness fees. *This is not the law*, and no court can compel such submission; it is in direct contravention of the principles of our constitution as set forth in the bill of rights, wherein it is provided that "No man's property shall be taken from him without just compensation, or due process of law." To the physician his profession is his means of livelihood, his medical knowledge is his capital stock, and his professional services are no more at the mercy of the public as to remuneration than are the goods of the merchant, the crops of the farmer, or the wages of the mechanic, and all attempts to make a difference is but losing sight of the substance and grasping at the shadow.

In this regard however we must clearly and carefully differentiate between the giving of *opinions*, and testifying to *facts*. Knowing anything of facts in a case, any and all citizens, however high or low, rich or poor, ignorant or learned they may be, whither occupying public or private stations in life, all stand upon an equality in this respect, and must attend as witnesses without other compensation than that provided by law. This is a burden that falls upon all alike; witnesses are bound to attend and speak to the facts which have occurred within their knowledge; but if a man of scientific attainments, simply from the fact of his being such, could be compelled without compensation to render professional services by giving *opinions* in court or elsewhere, then an eminent physician or surgeon might be compelled to go to any part of the district at any and all times, to act as interpreter or instructor, as the case may be. Such a penalty placed upon men of learning and skill is unheard of in any other connection, and has been decided by some of our highest tribunals to be illegal and unjust.

It has been urged in an attempt to justify the injustice, that attorneys have similar hardships imposed, and that we should accept the situation with becoming grace. That attorneys are assigned as counsel for pauper criminals and are required to defend without compensation is true. In this however there is no parallelism. Attorneys are officers of the court, share its courtesies and honors, and such services are rendered *cum honore*, whereas physicians sustaining no such relations, receiving no courtesies, dividing no honors, the

principle fails in its application. Physicians suffer pecuniary loss and patients are often neglected because of the needless absence from home of the physician while attending trials in court. If just compensation was required the demand for such services would be reduced to the real necessities, whereas it now often occurs that physicians are subpœnaed with little other expectation than to create an effect by an array of witnesses, thus expecting to intimidate the adverse party. The obsolete idea that they should be compelled to submit to such indignities, or that that their time and services should be demanded without just compensation, belongs to another age, and to a state of society hostile to liberty and human rights.

The writer is fully aware that some courts have held adversely to the opinion herein declared. The question however has never been before our supreme court, and it should not be forgotten that the law is a growing science, and that continually principles are being worked out the more nearly to conform to justice and right. The opinion here given is however in accord with that held by courts outside our State having high claim to respectability and learning, and would doubtless be so held should the subject come before our highest tribunal. The question is ably discussed and decided in Buckman versus the State, 59 Indiana, and dissenting opinion in Dill's versus State, same volume.

The remedy is not to be found in legislative interference. The law is plain enough if physicians will but claim their prerogatives in the proper way, which is to demand proper fees to be paid inadvance, and if the demand is not complied with, there is no court in the land that can compel you to testify. Simply stand on your rights and if a back-woods judge persists in his error, employ counsel and fight.

DISCUSSION.

The discussion of Dr. Cazier's paper was opened by Charles S. Gleed, attorney, of Topeka. On account of absence from the city, Mr. Gleed had not received notice until very late that he was expected to speak. There were some things, however, which he felt ready to say.

The positions taken by Dr. Cazier seem, on their face, entirely fair and reasonable; but a closer examination will show them to be at least impracticable. The machinery of government can never be made to do exact and impartial justice. The very best of it falls short of this in many ways; and to determine whether any proposed scheme is or is not good, we must apply this test of practicability. It has a good sound to say that the judges of our courts should select all the expert witnesses so that all such testimony may be non-partisan and reliable. A glance at the practical side of such a scheme shows that the result of trying it would be "hard trials, great tribulations." The judges would be responsible for all expenses. The calling of expert witnesses, to be paid as Dr. Cazier desires would put on judges the responsibility of spending the people's money in a manner which neither judges nor people would like. It is more than probable that the judges would either decline to spend the public money at all out of fear of censure at the polls, or else that they would spend it lavishly and rely on making the manner of their spending it counteract the antagonism of the tax payers. In other words, judges who had the nerve to spend it would be likely also to have the discretion to put it where it would do the most good with reference to election day. The judges in selecting their expert physicians, bankers, railroad men, engineers, penmen, accountants, chemists, etc., etc., as Dr. Cazier desires, would give the grossest offense to litigants whose prejudices and beliefs would be miscellaneously outraged, for judges are only human. Finally on this point, the principle that an expert witness should be required to undergo the same examination to prove his fitness to testify as that which any other witness undergoes is a sound one. It is wrong in principle to give any judge the power to put a quack or a partisan on the stand and say to the jury, "This man's opinion goes."

The scheme of paying expert witnesses in an exceptional and extraordinary way as compared with other witnesses, seems to be even more impracticable than the plan of appointment by the court. It is a clear case of hardship, narrowly considered, for the law to confiscate the time and skill of witnesses,

jurors and others, and pay for it less than its market value. But can any practicable plan be devised by which this may be avoided?

It is no worse to rob a physician or lawyer than it is to rob a merchant or mechanic. Any man of any calling or occupation whose time or skill would ordinarily command much money suffers a wrong when he is forced to give it up for a trifle. The physician may have arrived at his opinions by long study and experience. The same may be said of the merchant, the banker, the accountant, the builder, the engineer, the author, the electrician, the musician, the painter, the cattle raiser, the horticulturist, the railroad man—all of whom are liable at any time to be called as expert witnesses.

Because a young man has listened to lectures a few months on law or medicine, and has practiced a few months thereafter, it seems ridiculous to call his opinions more peculiarly his own or more peculiarly valuable than the opinions of merchants, or manufacturers, who have put in a life time learning the mysteries of their business.

Again, if witness' fees are to be based on the amount of time devoted to becoming expert, then most certainly a difference should be made between young physicians and old ones, famous physicians and obscure ones, able physicians and frauds. Any court would flounder in very deep water were it to open up the question of what the State owes to all sorts of men for their various degrees of assistance in trying to discover and administer justice, particularly if the basis of the fees to be allowed was the degree of preparation which had been made for becoming expert.

A much fairer though equally impracticable basis for fixing fees would be a determination of what a given witness has actually lost by his attendance in court. How much a physician's patients or a lawyer's clients may have suffered by the detention of a witness in court cuts no figure, because pay to such witness would do the patients or the clients no good. If the measure of what a witness has actually lost is to be applied, then justice would seem to require that the merchant whose time is worth one-hundred dollars a day should be paid that for a day's attendance. A juror whose time is worth ten dollars a day should be paid that, and a professional man who has hard work to earn three dollars a day should be paid at that rate.

But the real point about this matter is seen when the exact nature of the service is understood. The witness is not called in to serve John Doe or Richard Roe the litigants. He is called in to serve the State. He gives his opinions to help the judge and the jury. The judge and the jury represent the people —the sovereign. Dr. Cazier advises you to disobey when you are called to court. I advise you to obey. When the sovereign calls on a citizen for help, the citizen will do well to respond with alacrity. The duty is a patriotic one, and no other view can well be maintianed.

I am aware that at various times, in various States and countries, various courts of more or less authority have rendered decisions which suggest the possibility of the special payment of expert witnesses, and a release from contempt if they decline to testify; but the main drift of all practice and all opinion is the other way, and in the absence of a statute in Kansas which will relieve you from the necessity of going to court when you are served with summons I advise you to go, and stand not on the order of your going.

Apparent hardships which expert witnesses experience, as so graphically portrayed by Dr. Cazier, are, in my opinion, nothing more than apparent, for the reason that there are numberless practical adjustments. Witnesses are rarely asked to give any considerable service without being paid as per previous agreement. If this previous agreement will make a physician or a lawyer or any other expert witness "jockey" in giving his opinion, then our whole condition so for as witnesses are concered is hopeless, because no scheme can be devised whereby any witness will be clear of temptation to color his testimony.

I think it is universally recognized as a mark of honor to be called as an expert. It is certainly so in the case of physicians. If, therefore, benefits are assessed as well as damages, it will probably prove that what a physician loses in point of time by giving his evidence, he more than makes up by the desirable adver-

tising he gets in the court room and in the papers. Indeed, I am informed by several of our ablest physicians, and by at least one of the ablest physicians in the United States, that members of the profession are almost universally glad to be called as expert witnesses, whether they get pay or not. The cases are very rare when they object to rendering the service.

In this connection it should be borne in mind that courts never hesitate to arrange for compensation in the case of grevious hardships, such as where witnesses are compelled to make elaborate tests or perform difficult surgical operations, etc., etc.

This leads to the conclusion on my part, therefore, that you will do well to obey the summons from the "back-woods judge" to whom Dr. Cazier refers, rather than invest your hard earned money in fines for contempt of court, or neglect your growing practice by going to jail. There are numerous ways of making yourselves ridiculous that will not be so expensive or inconvenient as this.

Before concluding his remarks, Mr. Gleed expressed the opinion that a more profitable matter for discussion, and the only one which he had in mind in coming to the meeting, was not the minor question of what an expert witness should be paid, but rather the all-important question of how the witness should be treated after he is on the stand. Many a good witness has felt himself broken down by unjust methods of examination, and many a bad witness has been triumphant for the same reason.

Dr. Cazier says that a distinction should be made between a witness who testifies to a fact and one who expresses an opinion. Every witness, "expert" or otherwise, must testify as to facts and only facts. Generally speaking, for court purposes, one fact is as valuable as another. What a witness remembers of a given conversation and what he remembers of the laws of chemistery ought to be considered as on the same level. Each relates to facts.

Lawyers are wrong in permitting witnesses to be broken down on branches of a profession or calling in which they are expert, by quizzing on branches in which they are not expert. The physician who is strong on fits may be weak on fevers. The lawyer who is sure on corporations may be unsafe on real estate matters. Each witness should be examined with reference to what he knows and that only. The rules of evidence do not so provide. As this question had not been opened up in the leading paper, Mr. Gleed refrained from extended remarks on it.

Dr. W. L. Schenck—Am perfectly willing that the physician do his share of public duty. If I have acquired by study and special experience a fuller knowledge of some subject, and called upon to testify in court as an expert witness in a special case of which I have never heard, it is not fair nor just that I give my time without recompense or adequate compensation. The laborer is worthy of his hire. If our information is valuable the court and community deserves to pay for it. It is a hardship to the physician as well as the community to be called away from his business.

Dr. J. C. McClintock—I have a subpœna in my pocket summoning me to appear before the court to-morrow morning. Can I stand back and demand my fees? Can I refuse to answer such questions as are put to me? No, the judge can compel me to answer or attach my person.

Dr. L. H. Munn—Some months age when I was summoned to appear before a court of justice, I demanded my fees before going and I got them.

Dr. W. H. Righter—We ought to have a law protecting the physician in regard to payment of his fees. I have had the unpleasant experience of receiving no fee for such testimony unless I stood in with the attorney.

Dr. McClintock—I have a word of commendation for the attorneys; they have always been very considerate to me, at least.

Hon. Chas. Gleed—Any witness may demand the fee prescribed by statute, before appearing. The jury and court have the power to call any one to their help, no matter what their profession or calling or how much they may suffer pecuniary loss, to settle public difficulties.

Dr. Geo. M. Gray—I think a physician can avoid giving an opinion when he is summoned; can say he is not prepared. He has the right to ask the time to investigate the authorities before giving testimony.

Dr. J. Punton—To Dr. Cazier our thanks are due for the paper. In this matter of expert testimony, we all appear to be at sea. In giving testimony we should be non-partisan and not scheme for the biggest purse. You are subpœnaed to give facts. Physicians are sometimes too anxious to go to court because it gives them prominence. We ought to look at it on a higher plane and not simply for money's sake. In expert testimony with reference to the insane, every State should have its lunacy board, consisting of the superintendent of the Insane Asylum and prominent neuroligists throughout the country, which board could be consulted from time to time; the best opinion rendered, unbiased.

Dr. McCandless—Physicians should be remunerated. A physicians experience is his capital stock, no one can take that away from him without compensation. We cannot afford to resist the law when summoned, but we should contend for our rights.

Dr. J. E. Minney—With respect to attorney's paying their obligations, I wish to offer commendation; have always been well treated and every promise as to payment of my fees, fulfilled to the letter.

Dr. Schenck—No physician should testify to anything but the truth and that only, no matter which side the money is on. The court should decide who are experts, select those skilled in his special branch. It would be well for the court to pay proportionately for the knowledge obtained.

Dr. Pelton—Physicians upon the witness stand have special privileges. Cited a case in which on the witness stand he was asked to give the name of a special patient he was treating. Upon appealing to the court, whether it was just to compel him to give the name of any of his patients, he considered it an unjust exposal to do so. The court decided that he was not obliged to do so unless he felt so inclined.

Dr. D. F. Rodgers—The large fees do not compensate the physician nor his patients for his time spent in court. The physician should be exhonorated from giving expert testimony for the sake of humanity.

Dr. R. E. McVey—There should be some definite statutory law on the subject; as it is we are at sea.

Dr. L. L. Terwilliger—With respect to attending summons he had found that the physician is no better than any other profession or artisan, no partiality should be shown to the physician.

Dr. Cazier in closing said—I am surprised that my friend Gleed should come to say he is not informed on this question. His averment is however corroborated by the subject matter of his discourse; and further he seems not to have listened attentively to the reading of the paper or he would have understood it better. There was no suggestion to the effect that the judges of our courts should select the expert witness; true, it was suggested that the parties to the cause should not, but this does not imply that the court *should.* Jurors are not selected by the parties, plaintiff and defendant, neither does this prerogative as a consequence rest with the court. This portion of the paper is suggestive only, presenting the *ideal* and not the *real.* The second portion of the paper is made distinct from the first, and in this we pass to a discussion of *conditions* now existing.

It is not maintained that physicians are the only class who have a property right to their own opinions. The definition given to an expert admits of no such construction. The fact that this is a meeting of medical men, however, seems to require a study of the question from this stand-point.

Mr. Gleed would, it appears, offset the authority of law by his own blank assertions. The paper maintains that a physician cannot be compelled to give opinions in court without compensation. Mr. Gleed says, "The main drift of all practice and all opinion is the other way." A little *law* right here would have sounded much better, and would comport more favorably with the learned profession which he represents.

Mr. Gleed would have you believe that my position is new, untried and inexpedient; the fact is there is nothing new in it, except so far as all things are new to the uninformed, and in reply to his only objection, it should be remembered that we are not now seeking advice as to what is *expedient*, nor what the fledgling doctor is most likely to profit by, but our inquiry is—*what is the law*? Just

what Mr. Gleed may mean by the "main drift" I am unable to say; it is one of those idioms which admit of numerous constructions; we may *drift* for lack of knowing how to *swim*, and that is about what physicians have been doing, and I find that some lawyers have come to believe that the question of their own convenience is the dictum of the law.

The fact is, the very principle I am contending for has long been recognized wherever the interested party has claimed his rights before a competent court. That is, that a man's *opinions* are his own property. I quote Lord Campbell in Betts versus Clifford, Warwick Lent assizes 1858, "A scientific witness or expert is not bound to *attend* upon being served with a subpœna. If, however, he knows any questions of fact, he can be compelled to attend, but not merely to speak to matters of opinions."

In Webb vs. Page 1 Car. and K. 25, Justice Maule said, "There is a distinction between the case of a man who sees a fact and is called to prove it in a court of law, and a man who is selected by a party to give his *opinion*; the former is bound as a matter of public duty, the latter is under no such obligation." The above decisions have been followed in this country and have not been overruled, the common law principle is plainly stated, and is the law to-day.

Mr. Gleed volunteers some advice because as he says Kansas has no statute relieving you. I say the law has existed for all time, and that statutes are but exceptions wherein the law has been changed. Therefore the fact of the absence of any statute in this State proves the converse of what Mr. Gleed would have you believe.

Mr. Gleed says I advise you to disobey. I have not felt myself called upon to give advice; I simply say *this is the law* and your privilege is to claim your rights under it if you so desire.

The superaltive of the ridiculous is reached when Mr. Gleed attempts to confuse your minds with the subterfuge that *facts* and *opinions* are one and synonymous; true enough "what a witness remembers of a given conversation, and what he remembers of the laws of chemistry ought to be considered as on the same level," but ask him his *opinion* as to the cause of the death, the same to be based on the hypothesis that the deceased swallowed a number of chemicals, neither of which in itself is regarded as poisonous, and you strike *another level*, and your man can refuse to answer the question until he is paid for his *opinion*.

The "fits and fevers" in Mr. Gleed's remarks, followed by his proposition that "a witness should be examined with reference to what he knows and that only," is doubtless meant for one of his "dry jokes." Relative to all that Mr. Gleed has said in this matter, I am impelled to repeat the response of Hamlet to Polonius, "words, words, words."

Dr. Cazier said he hoped the paper had awakened interest sufficient to cause physicians to inform themselves on the subject. If so his object is attained.

VINEGAR FOR URTICARIA.—After trying many remedies in a severe case of urticaria Mr. Swain found a vinegar lotion gave almost instant relief, and subsequent trials in other cases have been equally successful. One part of water to two parts of vinegar is the strength most suitable.—*British Medical Jour*

TO REMOVE THE DARK COLOR FROM COMEDONES:

R.	Lanolin	ʒss.	
	Vaseline	ʒi.	
	Per ox. hydrogen	ʒi to ʒij.	M.

"ON what grounds did the board of examiners grant White Feather a pension? He never saw any service. They found his sympathies were enlisted and sorely wounded when asked to do service."—*Exchange.*

THEOLOGICAL PHYSIOLOGY.—If it had pleased God to so order, it would have been quite as easy for an oyster to have swallowed Jonah as for Jonah to have swallowed an oyster.—*Baptist Teacher.*

IF it had pleased God to order, it would have been quite as easy to have made an oyster a Sunday school teacher, and the oyster following its instinct would have shown its wisdom by keeping its mouth shut.—*Congregationalist.*

The Pathology, Etiology and Koch Treatment of Tuberculosis.

Read before the Golden Belt District Medical Society, at Topeka, Kas., April 9, 1891.

BY P. DAUGHERTY, M. D., JUNCTION CITY, KAS.

Gentlemen of the Golden Belt Society.

Allow me to congratulate you upon the prosperity of this Society, and to thank you for the many favors shown me since I have been your presiding officer. According to time honored custom it is expected of the retiring president that he deliver an address appropriate to the occasion. In casting about me for a subject, the greatest obstacle I found in my way was the selection of a subject upon which I could interest you. If there is one subject more than another that is engrossing the minds of the medical profession today, it is that of Tuberculosis. And the cause for this lies in the fact that at least one hundred thousand of our fellows in the United States die of this disease annually. I will therefore speak to you upon the Pathology, Etiology and Koch Treatment of Tuberculosis. In what I shall say to you to-night I claim nothing original, but shall try to give an epitome of our knowledge of this all absorbing question from the days of Sylvius to the present time.

To Sylvius we owe the first accurate description of tubercles of the lungs. He taught that tubercles produced cavities in the lungs by a process of degeneration and liquefaction. To him we owe the first intimation of the unity of tuberculosis and scrofulosis. He believed tubercles to be "enlarged scrofulous bronchial glands." Sylvius wrote his work in 1680. Twenty years later Margaret describes the miliary tubercle and advances the idea, now confirmed, that they are not confined to the lungs, but may be disseminated throughout the body. This discovery seemed to have been completely lost for about one hundred years. Prior to the time of Baillie nodules of tuberculous matter found in the lungs was believed to be different from miliary tuberculosis. This author believed the nodules to be formed by an aggregation of miliary tubercles which he called "scrofulous matter" This substance, a few years later, Portal named tuberculous substance. At this time it was believed that all cavities in the lungs were produced by softening of tubercles. Vetter showed that this was not the only process by which cavities were formed, and spoke of suppurative inflammation as another cause. But Vetter, like all great men, made some great mistakes, and one was in teaching that tuberculosis of the lungs and abdominal organs were not related, but distinct pathological processes. Next comes the long and bitter fight between the followers of Lænnie, on the one side, and Broussais on the other, as to the non-inflammatory or inflammatory process of tuberculosis. Lænnie taüght that it was a non-inflammatory process, while Broussais and his followers believed it to be a chronic pneumonitis; and that tubercles were the product of inflammation. About this time Addison called attention to the microscopical appearances of tubercles. He taught that tubercles originated from the white blood cells, these cells being arrested in the capillaries and changed into epithelial cells. He therefore regards tubercles as a collection of epithelial cells thus formed. I think that Williams in his principles of medicine holds similar views. It has been about thirty years since I read his work, and not having it at hand to refer to I cannot be positive. But the views taken were these. That the white blood globule was formed by a fat molecule coated with an albumenous envelope, and that a deficiency of fat in the system leads to an abortion of the blood globule and it would be deposited as a tubercle. Following Addison was Lebert (Mulers Archives 1844) who claimed to have discovered a peculiar corpuscle existing only in tubercles, Virchow and Reinhardt attacked Lebert's corpuscles and claimed that they were shriveled pus cells. But so far as I have been able to learn Virchow expressed an opinion upon the much mooted question, at that time, of the inflammatory or non-inflammatory character of tubercular neoplasms. Niemeyer recognised two kinds of phthisis: One having its origin in pneumonitis and the other in chronic

tuberculosis. Niemeyer held with Virchow that scrofulosis is a distinct process, related to tuberculosis only when it leads to caseation. Buhl's postmortems in two hundred and eighty cases lead him to believe that tuberculosis was a specific infectious disease, and that the specific virus was to be found in the caseous nodules.

Heitzman exploded Buhl's hypothesis by showing that in ten per cent. of Buhl's own cases he failed to find the caseous infecting center.

Clebs believed that the "endothelial cells of the lymphatics took part in the production of miliary nodules", while Shupple thought that they were of embolic origin.

We wish to direct your attention for one moment to the inoculation experiments in tuberculosis. Kortum in 1789 inoculated a boy with scrofulous pus but without results. Soon after a number of inoculations were made on dogs and guinea pigs with negative results. Lænnie accidently inoculated himself while making a postmortem and a nodule formed in the wound; but there was no symptoms of a general infection, although he died of consumption twenty-five years after the accident. Albert publishes five cases of accidental inoculation with tuberculous matter, all of which were negative. Then comes a long list of experimenters injecting various substances all of which were followed by nodules which they declare to be identical with tuberculosis.

In 1865 Villemin published his success in tubercular inoculations. He experimented successfully on rabbits and guinea pigs. Villemin made counter experiments on rabbits with various substances and they all failed to produce tuberculosis. From this fact his views gained almost universal sanction. The profession, forgetting the fact that tubercular nodules, so called had been produced by the injection of a whole host of subtances in the hands of a host of experimenters in every way the equals of Villemin. But I cannot pursue these inoculation experiments further. With inhalation, experiments began in 1867 by Knauff and others. We learn that the inhalation of various substances, tubercular and non-tubercular, resulted, at times, in tuberculosis in the animal experimented upon. This was the condition of this much mooted question when Robert Koch shied his castor into the arena in 1882. The title of his paper was "The Etiology of Tuberculosis." For months he had been seeking for the cause of tuberculosis. In his researches in splenic fever he had already devised means for staining micro-organisms. He started out impressed with the idea that tuberculosis was produced by a specific micro-organism and bent all his energies to discover it. Adopting the same methods he had used in splenic fever he soon found that his staining fluid of methylene blue, caustic potash and distilled water, stained the bacilli of tuberculosis, a beautiful blue, while all other constituents of the tissues were stained brown. In all other cases of tuberculosis he found them in large numbers in the interior of cells, at the margins of caseous centers, in cheesy bronchitis and pneumonitis, in tubercles of the brain and intestines, spleen, liver and kidneys, in caseated bronchial glands, lung cavities and mesenteric glands. In all cases of tuberculosis. Koch found his bacilli, which differed from all other known bacilli, constantly present. But, says Koch, "It does not follow, however, that the bacilli thus found are the cause, the starting point of tuberculosis; although the fact that the bacilli are found in those points especially where the tuberculous process is just beginning, or is progressing rapidly, and disappear when the diseased process ceases, rather favors this supposition." Koch next turned his attention to the isolation and cultivation of the bacilli. He cultivated them through many generations, so, as he believed, to purify them completely of all diseased tissues and extraneous substances. He then inoculated various animals such as guinea pigs, rats, mice, hedge hogs, pigeons, frogs, etc.; all of which become tuberculous in a high degree in about four weeks. Time will not permit of my giving in detail any of the many experiments of Koch. But every precaution was taken, so he informs us, to exclude everything but his pure culture of tubercle bacilli. These experiments led him to believe that the bacilli were not merely attendants of phthisis, but the true tubercle-virus, and that it was not the peculiar structure of tubercular nodules that decided the question

of tuberculosis in a given cause, but the presence of the tubercle bacillus.

Two questions now presented themselves to Koch for solution.

First—Where do the bacilli originate?

Second—How do they gain an entrance to the body?

He first proved by experimentation that the bacilli only multiplied at temperatures ranging from 86° to 105° F. below, or above this range, not the least growth was manifested. The conclusion he drew from this fact was that they could develop only in the animal body between these temperatures.

The answer to the second question he found in the fact that the dried sputa of consumptives, containing the bacilli, is constantly floating in the atmosphere and taken in with every respiration. It is estimated, by some, that one-third of the human race is affected with tuberculosis. If this be true, and Koch's answer also, what show is there for the other two-thirds.

Koch's publication stimulated research in every direction. A host of men entered the field in the search for micro-organisms. Most of the experimenters corroborated Koch's views and it was generally believed in Germany, that the bacillus was the sole cause of tuberculosis, and that phthisis was a true infectious disease like syphilis, and could only be produced by contact with the bacilli. But they soon found that a something else was necessary, a predisposition on the part of the individual, a proper soil. But like all questions, even in Germany, this had another side. Dettweiler and Meissen denied the contageousness of tuberculosis. They quote the statistics of the "Brompton Hospital," where during twenty years among the physicians, attendants, and nurses, who were hearty on entrance not a single cause of lung trouble had appeared, although they had handled fifteen thousand two hundred and sixty-two patients, occupying the same building with them, most of them suffering from some form of phthisis." Now remember that this was at a time when the sputa of the patients was not disinfected. These gentlemen with many others, held that the phthisical lung furnished the proper soil, hence the bacilli. Williams examined the air of the Brompton Hospital and found it filled with the bacilli. When we think of the great amount of sputa that became dried and disintegrated in the Brompton Hospital, filling the atmosphere of the place as Williams has shown, how are we to account for the fact that no one in the twenty years spoken of, ever contracted the disease if it is an infectious malady?

If the evidence furnished by the Brompton Hospital is worth any thing, it surely negatives the idea that consumption is a contagious disease in the ordinary sense of the term. Benecke claims that he found in an alcoholic etherized extract from healthy blood formations like Koch's bacilli, and that they reacted in the same way. Schmidt, our Schmidt of New Orleans, claimed that Koch's bacilli were not bacilli at all, but crystals of fatty acids. But the opposition to Koch was not great at this time, and his views were corroborated by the great mass of mycologists. This was the status of this great controversy up to about 1884. In Prof. Stricker's laboratory there was a mycologist worthy of Koch's steel. He had been studying the question closely and repeating all of Koch's experiments. We allude to Prof. Spina, a man who was thoroughly qualified, both by education and experimentation. Spina's experiments lead him to conclusions diometrically opposite to Koch's. One of Koch's main points was the tubercle bacilli reacted in a peculiar way with aniline dyes by which they could always be distinguished. This Spina denies and appeals to his experiments for the proof. Koch claimed that the tubercle bacilli was increased in a peculiar membrane that aqueous solutions of visuvin and acids could not penetrate. Spina showed that not only alkaline, but neutral and acid solutions of these coloring matters colored the bacilli, and that acids do enter the tubercle bacillus. Spina concludes from his experiments that so far as the reactions of the tubercle bacillus is concerned that there is nothing distinct and peculiar about it; but that it is constructed like all other cells of the animal and vegetable kingdoms. He shows further that other bacteria having no causative relation to tuberculosis are stained in the same way.

Mycologists, like most other men differ. There are two schools. One believes in the constancy of micro-organisms, that under all circumstances they retain their original forms. The other that they are variable, depending upon the soil and environment. Koch belongs to the first school, Spina to the second. Naegeli and Buchner are the champions of this second hypothesis and from the evidence presented by both sides, placing myself in the position of an unprejudiced juryman, I should feel bound to decide the case in favor of the latter. Spina's experiments disprove the statements of Koch that the tubercle bacilli varied only within certain well defined limits. In some of his experiments he found the ratio of thickness to length as one to two; in others the length in proportion to the thickness as three to one. Spina next disputes Koch's claim of the constancy of tubercle bacilli in tuberculosis. He examined one hundred and fifty tuberculous mesenteric and omental deposits in various stages of developement without bacilli in a single instance. He instituted a number of experiments which showed the presence of Koch's tubercle bacilli in non-tuberculous affections. But time will not permit of us following the investigations of Spina further. Koch soon made a reply to Spina and others of his critics. In this reply he seems to have lost his temper. One by one he refers to the views expressed contradicting his position, but instead of disproving them, he brushes them all aside with the remark that all those persons that have found anything different from him knew nothing of the use of the microscope. While the great mass of the profession to-day are probably on the side of Koch, scientific problems cannot be settled in favor of the one side, by claiming that those holding opposite views are ignorant. In summing up our knowledge of the etiology of tuberculosis, the only thing that we know of a certainty is, there is yet a very large element of uncertainty about all the hypotheses put forward to account for this deadly malady.

Prof. Koch having settled the etiology of tuberculosis to his own satisfaction, now turns his attention to the discovery of a remedy. He found that injections of a pure culture of tubercle bacilli into healthy guinea pigs produced no effect until the lapse of from ten to fourteen days, when a hard nodule forms at the point of inoculation which soon breaks down leaving an open ulcer which persists until the death of the animal. But when he inoculated an animal already suffering from tuberculosis he observed something altogether different. In this case the "inoculation wound becomes sealed at first, but no nodule is formed, a pecular change taking place at the point of inoculation. On the first or second day the spot becomes hard and dark colored; and this is not confined to the point of inoculation, but spreads around to a diameter of one-half to one centimetre. During the next few days it becomes more and more clear that the epidermis thus changed is necrotic. Finally it is thrown off and a flat ulcerated surface remains which generally heals quickly without carrying infection to the neighboring lymphatic glands." Koch found that the same effect was produced by the dead bacilli whether killed by low, or high temperature, or, by chemicals. He further learned that dead bacilli ground down and suspended in water could be injected under the skin of healthy guinea pigs in large quantities with no effect but that of local suppuration. While on the other hand tuberculous guinea pigs were killed in from six to forty-eight hours by the injection of small quanties of the same. But when he attenuated his solution until it was barely turbid, he found that his guinea pigs not only did not die, but got well if he continued his injections at intervals of a few days. Koch says "These facts formed the foundation of his therapeutic method against tuberculosis." But another obstacle confronted Koch. He found that his dead bacilli were not absorbed but remained in the wound and produced suppurating centers. This led him to believe that the active agent was a soluble substance that immediately entered the circulation, while the pus forming substance remained with the insoluble remains of the bacilli. Thus, says Koch, "the only important thing to be done was to carry out the process which takes place within the body *outside* of it also, and, if possible, to extract and isolate the curative substance from the tubercle bacilli. This he says he succeeded in doing

"by the help of a forty to fifty per cent. solution of glycerine. The remedy with which the new therapeutic treatment of tuberculosis is carried out is, therefore, a glycerine extract of pure cultivation of tubercle bacilli." Koch's hypothesis in regard to the specific mode of action of this remedy is this "The tubercle bacilli in their growth produce in the living tissues certain substances which have a deleterious influence on the living elements of their surroundings—the cells. Among these substances is one which destroys living protoplasm and causes it to undergo a transformation into the condition called coagulation-necrosis." This necrotic tissue is unfavorable for the development of the bacilli. Now if the necrosis producing substance were artificially added to that contained in the tissue surrounding the bacillus, then the necrosis would extend further, and thus the condition of nutrition of the bacillus would be much more unfavorable than is usually the case. Then, not only would the more completely necrosed tissues disintegrate, slough, and—where this is possible, take with them the enclosed bacilli, carrying them outward, but the bacilli would also be disturbed in their growth to such an extent that they would die off sooner than is the case under ordinary conditions. It is in calling forth such changes that to my mind the action of the remedy seems to consist." When I read this statement the following question suggested itself to me. Is it always safe to call forth such extensive necrotic changes in closed cavities or tissues that cannot be drained? And has not the "calling forth" of excessive necrotic changes been the cause of death in many of the cases treated by this remedy?

Five months has now elapsed since the profession was startled by the announcement of a remedy for the cure of this terrible malady. Nothing in the whole history of medicine ever produced such enthusiastic applause as the announcement of this lymph discovery; not even the heralding of the discovery of the testacular fountain of life. But a survey of the medical horizon to-day reveals the fact that the enthusiasm is subsiding, that there is grave doubts about our fondest hopes being realized. We must all acknowledge that as yet the time is too short, that the remedy is yet in the experimental stage, and that it will require a year or more yet before the final verdict can be reached. Many of the leading members of the profession on both sides of the water are pronouncing against the remedy. Many of the leading members of the profession in Chicago claim that the remedy is dangerous in all stages of tuberculosis where drainage cannot be established. On the other side of the water Prof. Semmola informs his professional brothers that "in order to cure tuberculosis we must either render the propagating soil (organism) unfit for the development of the tuberculosis germ, or we must kill the bacillus itself. The Koch lymph, however, is incapable of accomplishing either the one or the other. This conclusion must force itself upon the most blinded, if they are true physicians and investigators. Koch has himself declared that the lymph is not capable of destroying the bacillus, and further words on this subject seem superfluous."

In scanning the reports from foreign hospitals where the Koch treatment has been in vogue for the past four months, we find the cures reported few and far between, while the fatalities have been numerous. A large number are reported as improved or improving, which, when you take into consideration their improved hygienic conditions and the effect of "expectant attention" produced by a new and novel treatment which they have explicit confidence in, is no more than could reasonably be expected. I have no doubt that many of you have witnessed the soothing effects of a hypodermic injection of warm water upon a patient impressed with the belief that he had taken morphine.

The most favorable report from this side of the water comes from Dr. Ruck, of Asherville, N. C. Dr. Ruck has a hospital for the treatment of pulmonary diseases at Asherville, and has this to say in regard to the lymph treatment: "We had a year ago at this writing, not a single case in our establishment that was not showing some improvement, but I believe I am not mistaken in my belief that under Koch's method we have had a more uniform and more rapid favorable influence to record than heretofore, and in some cases so much so

that we cannot but attribute it, at least to a considerable degree, to the action of the remedy." But, as I have before said, we are yet in the experimental stage with the lymph, and time will give it its proper place in the materia medica. What will be the future of Gibbs & Shurley's chloride of gold and sodium treatment, which now promises so much, time only can tell. Again, in conclusion, allow me to thank you for your support and confidence.

Leukæmia—With Report of a Case.

Read before the Sonth Kansas Medical Society at Wichita, Kansas, May 13, 1891.

BY O. J. FURST, M. D., PEABODY, KANS.

In presenting this subject to you, for your consideration, we do so on account of its imperfect etiology and treatment. And if we cause a new interest or impart some impetus in that direction, will feel amply paid for the preparation of this paper.

In the consideration of the extent of the disease and different organs affected, we cannot enter fully into minutia, but will consider, briefly, some of the important parts.

Leukæmia was first reported by Bennett, in October, 1845, as a disease in which the blood contained pus.

Virchow, in November of the same year, described it as an increase of the white blood corpuscles, which is the true state, in many cases the proportion of white and red corpuscles being just reversed.

Virchow also describes three kinds—splenic, lymphatic and myelogenous. The finding of the greater pathological changes in one of the above named structures giving to each the different name.

The blood changes the different varieties, differing in microscopical conditions. In the splenic variety, which is far the most frequent, the white corpuscles are large, with one or more neuclei closely resembling the cells of the spleen. In the lymphatic form the white corpuscles are smaller and have a single, somewhat granular, neuclus attached to the cell wall. "In many of these cases the blood has the appearance of containing perfectly free neuclei."

In my research of this disease I have found no description of the microscopical conditions of the blood in the myelogenous form, and have never had an opportunity to examine it myself; but as far as I can learn, it is so overshadowed by the other types, in fact does not develop alone, that it is reasonable to suppose there are no important changes, or it would have been mentioned by some author.

This disease is mostly confined to the temperate climate and is found more frequently in Europe than in this country.

Age does not appear to exempt, cases having been reported from eight weeks to seventy years, the majority, however, being from thirty to fifty years; after that they diminish rapidly. Males are oftener affected than females, as near as I can learn, in the proportion of about two to one.

Social and sanitary conditions I think are a great factor in the origin of this disease. The large majority of cases are reported from the lower classes, who are illy nourished and their hygenic surroundings very poor. But I think especially does food of poor quality, badly prepared and ravenously eaten, part of which is not fit for human beings, and which, when taken into the digestive organs is not in a digestible form and cannot be assimilated, together with the bad hygienic surroundings, bring on an impoverished condition of the blood favoring the development of the disease.

Other diseases do not have any influence on the cause of this disease, unless it is malaria. This in a chronic form, causing enlargement of the spleen, is thought by some authors to be an exciting cause, but is very poorly substantiated.

Hereditary conditions seem to play no part, as one case is reported by C. W. Earle, where the mother while suffering with leukæmia gave birth to a perfectly healthy child. Also in case I, to be reported further on, similar conditions are found.

The functions of a great number of the organs of the body are disturbed, the spleen, liver and medullary substance of the bones as mentioned before.

The digestive system is markedly affected. There is, in most all case want of appetite, nausea and vomiting, sometimes of blood also

diarrhœa and hemorrhage from the bowels. The blood is impaired in its functions, as it must necessarily be from the extreme changes which take place in it. The oxygen carrying portion of the blood if not diminished, is so changed as to be unable to furnish enough oxygen to the tissues to permit of any exertion whatever; we have from this cause an increased action or palpitation of the heart, trying to propel the blood fast enough to overcome this want. There are short, quick respirations, the lungs trying to get in more oxygen, but all to no purpose as is seen in the cyanotic condition of the patient. See report of case II.

The brain is disturbed as is manifest by headache, dizziness, vertigo, fainting, insanity and even suicide; the changes in moral and mental conditions often very marked being altogether opposite from health; some are very tranquil and resigned, while others are very quarrelsome and morose. The latter cases generally ending in coma. See case I.

Case I.—March 29, 1891, I was called in consultation, to see Mr. C. S.——, and obtained the following history from his wife. He was always a healthy man until 1870, when he began to complain of feeling weak and looked pale; then trouble with his stomach began. This weakness and stomach trouble kept increasing and in a short time he was unable to perform any manual labor. The skin took on that *pallid* condition so peculiar to this disease; with palpitation of the heart and pains or rather soreness in the right side in the region of the spleen. Also at times there would be a yellowish discoloration of the skin. indicative of liver trouble, which would only remain a few days and the skin would again resume its palor. This all occurred within the first year. About twelve years ago he consulted some eminent physicians of Cincinnati, O., whom he thinks made a microscopical examination of his blood and told him he had diseases of the spleen and liver. Sometime during the second year of his sickness his gums became swollen and receded from his teeth so that they became loose and would bleed upon the slightest irritation. His nose would bleed frequently; often vomited, sometimes blood, also passed blood from the bowels. He became very irritable, sullen and morose, the opposite from what he was in health. Great dyspnœa on the least exertion, even walking about. His family physician stated to me that his condition when he first saw him, about ten years ago, was about as above with spleen enlarged so that it protruded from under the ribs. Liver probably ⅛ larger than normal. The lymphatics as a system were not affected, but some of the individual glands were enlarged. Under tonic treatment his condition remained much the same until March 27, 1890, when he complained of pain in the calf of right leg. The skin and muscles began to necrose, and when I saw him, the morning of the 29th, it had extended over the foot, leg and thigh, extending into the body, from which a terrible stench arose. This trouble was undoubtedly due to embolism of the right iliac artery. He was partially conscious and would answer questions. During the night of this day he suddenly became comatose and sank gradually until he died at 8 o'clock the morning of the 30th. His wife bore two children by him during his illness. The first was healthy and has always remained so. The youngest, now about fourteen years old, was never a robust child, but has no distinct diseases. This case shows the possibility of begetting healthy children while suffering with leukæmia. Also the extreme chronic nature, in same cases, with changes in the mental conditions embolisms and comatose condition at death.

Case II.—Mary G.——, aged fourteen, family history good, never menstruated, had rheumatism when seven years old but seemed completely recovered. She first began about the middle of August, 1890, to complain of being tired and languid; soon her teeth began to ache and the gums get sore, soreness extending to mouth and throat. About that time she consulted a physician, and under his treatment, her throat and mouth improved, gums remained about the same until October 18, 1890, when her home burned; becoming much excited she ran for assistance to a neighbors and returned with them to the fire. After the house was consumed she again walked to the neighbors to remain during the night, making three miles that she ran and walked in not more than three hours. After this extreme excite-

ment and bodily exertion she rapidly grew worse. I saw her first November 18, 1890, at my office, at which time she was very pale, almost colorless. Respiration short and quick. Temperature 99½° under the tongue, tongue coated, white, broad and flabby, gums swollen and of a grayish color and seemed to be loosening from the teeth, would also bleed upon the slightest irritation. Tonsils swollen and cervical glands enlarged, spleen enlarged so that it could be distinctly felt under the ribs; liver appeared normal, appetite poor, bowels regular. I prescribed quinine, syrup ferri iodid., with syrup lactophosphate lime. I saw her next November 27, 1890, at my office, when she appeared to feel better. Pulse 80°, temperature under the tongue normal, did not breath so quick, appetite better, and said, "I feel much better," but spleen remained about the same, a little larger if anything. Continued the same treatment. Was called to the country to see her December 4, 1890, and found her very tranquil and resigned. Temperature 101½°, pulse 120, respiration very hurried and upon the least exertion would have palpitation of the heart, gasping for breath her face would become cyanotic. Spleen much enlarged reaching half way to ilium. These severe symptoms came on suddenly the night before and continued the same until December 8, when vomiting, hemorrhage from the nose and mouth began and continued until her death, December 11, 1890. The spleen enlarged very rapidly. December 9, when I saw her last, it reached below the crest of the ilium, into the pelvis, and was probably five inches wide by two inches thick. She remained perfectly conscious until a few minutes before she died.

This case shows the rapidity of the disease in a purely splenic form and the very rapid enlargement of that organ, and was also a typical case in regard to the digestive disturbance and hemorrhagic conditions with cyanosis on the least exertion even of turning over in bed.

ONE of Koch's assistants, Dr. Weyl, it is said, has detected the poisonous elements in Koch's Lymph, and is enabled to eliminate them by an invention of his own.

SOCIETY PROCEEDINGS.

Topeka Academy of Medicine and Surgery.

This society met in regular monthly session at Topeka, Kas., in Lincoln Post Hall, Tuesday evening, June 2, 1891.

In the absence of the president Dr. C. A. McGuire presided.

Present—Drs. Colcord, Sheldon, Morgridge, Ward, Williamson, Plummer, S. G. Stewart, Limmer, Mitchell, Green, Lindsay, Righter, Rodgers, Pelton, Minney and Cannon.

Drs. Colcord and Davis were elected active members and Dr. Seabrook of Burlingame, an honorary member of the society.

Dr. Williamson read a paper on "The Microscope in Medicine."

DISCUSSION.

Dr. Stewart complimented the paper and spoke of the point brought out in the paper in regard to examining the urine of patients. Almost every case should have a microscopic examination of the urine. We see many cases where there is albumen in the urine; the microscope will enable us to determine whether we have a case of parenchymatous change or degeneration, and nephritis, in the latter we find blood, in the former not, but simply a case of degenerative change. In the case of simple, degeneration by applying tonic remedies with reference to the digestive system we improve our patient and and can offer a favorable prognosis. In nephritis our prognosis will not be so favorable.

Dr. Minney—The paper is practical and I like it. The day has come when physicians who fail to use all means of diagnosis will fail in prognosis and in the end will get left.

Dr. Mitchell liked the paper on account of its brevity. Thinks physicians educated in these days should appreciate the advantages to be gained in the use of the microscope.

Dr. Lindsay has derived great satisfaction from the use of the microscope. It is a good idea to examine all urine.

Dr. Colcord thinks we are coming to a point where we may not only differentiate between different diseases, but where we can differentiate the various stages of a disease. If we find blood in the urine we can tell where

it comes from, whether from the bladder or kidney. The character of the epithelial cells enable us also to determine the seat of the disease, mentioned a case where it was determined to be in the bladder by means of the microscope. Thought that cancer cells from the kidney were quite characteristic and easily determined from those from the bladder.

Dr. Morgridge thought there was much to be learned from the examination of the excretions from the kidney, but we may be misled. There are various acute affections of the kidney that we may mistake for pathological conditions. Spoke of a case where a man was kicked by a horse. He complained of a pain in the back and was thought to be a malingerer. I examined his urine and found leucocytes, Thought a psoas abscess was forming. Patient was sent to the mountains, came back and finally died of psoas abscess and degenerative disease of the kidney. Spoke of a case he saw last winter who complained of la grippe, passed but little urine; examination resulted in finding shrivelled blood casts; now, after several months hyaline casts are found. How without the use of the microscope could we tell the condition of this patient. But we must watch the microscope for as I have said it will mislead us. It is a ready means of directing us in the right path, and the man who uses it is better able to cope with disease.

Dr. Ward—We should all know something of the microscope, but it requires training and close attention and constant practice to become proficient. We should have men who make it their special work, and should turn over all that kind of work to them.

Dr. Pelton—Diagnosis is the basis of practice, and without a diagnosis we are incompetent to treat disease. The microscope is as necessary to a medical man as the family bible is to an old grandmother. It is a great comfort. Chyluria can be found by means of the microscope, where we would hardly suspect it by other means of investigation. So in diseases of the liver we can easily determine the commencing disease. While the doctors paper dealt mostly with diseases of the urinary tract, the microscope enables us to determine disease in the various other parts of the body, brain, lungs, nerves, etc.

Dr. Sheldon's paper on "Treatment of Fractures of the Femur," was continued until next meeting.

Dr. Lindsay, by request of Dr. McClintock reported in writing a case operated upon by the latter "Linear Craniotomy."

DISCUSSION.

Dr. Sheldon—This is very interesting from the fact that this is the first that has been so operated upon in this State. It is a question whether it is better to perform unilateral or bilateral operations, prefers the bilateral operation. Described Dr. Keen's forceps used in the operation.

In answer to a question by Dr. Morgridge as to the propriety of dividing the longitudinal bridge left in this case, said he did not believe the bridge would cause any trouble.

Dr. Pelton was present at the operation and was interested in regard to the case. The question to be settled by the operation is, what effect pressure has on the convolutions of the brain. It is important in a neurological point of view as well as a surgical standpoint. Does not think it necessary to cut through the dura, as had been intimated. So far as dividing the longitudinal bridge, thinks it should not be done, as it is a rule not to trephine over the longitudinal sinus. The falx looses its support.

Dr. Morgridge—So far as trephining over the sinus was concerned, it was frequently done, the support of the falx counted for nothing, in fact it would take the pressure off of the falx.

Dr. Ward thought he would not cut the bridge. Spoke of the cases reported by Keen, and thought Dr. Keen a very bold operator.

Dr. Rodgers spoke of the greater liability of sudden deaths from operating over the sinuses and thought it better to leave the bridge for that reason.

Drs. Minney, Pelton and others discussed at length the probability of the new bone forming in the space left open.

Dr. Colcord said that the same idea seemed to prevail in this as in the early operations of of tenotomy, but it has been proven that tendons unite, as well after complete severing of their fibers as if only partially severed and he could not see why this space would not fill with new bone tissue.

Dr. Lindsay in closing said he did not regard this as strictly a case of microcephalus or lack of brain formation, but a case in which the brain was infringed upon.

Dr. Ward, Lindsay and Stewart were appointed a committee to provide for the entertainment of Eastern Kansas Medical Society.

Papers for the next meeting: "Treatment of Fractures of the Femur," Dr. Sheldon; "Report of a Case of Rabies," Dr. Cannon.

Adjourned to meet the first Tuesday evening in July.

D. F. RODGERS, M. D.,
Secretary.

Eastern Kansas Medical Society.

The Eastern Kansas Medical Society met in Lincoln Post hall, Topeka, Monday evening, June 8, 1891. In the absence of the president Dr. L. L. Terwilliger, and vice-president Dr. L. H. Munn, Dr. A. B. McCandless of Holton, was chosen president pro tem.

Minutes of April meeting read and approved.

Members present—Drs. W. J. Van Eman and W. R. Van Tuyl of Leavenworth; D. R. Porter and J. H. Van Eman of Kansas City, Mo.; J. H. Lyman of Manhatten, R. Morris of Lawrence, A. B. McCandless of Holton, F. W. Bailey, D. B. Colcord, T. W. Peers, G. L. Limmer, J. W. Donaldson, D. F. Rodgers, D. R. Pelton, S. G. Stewart, M. B. Ward, M. R. Mitchell, G. O. Morgridge, W. A. Williamson, J. E. Minney, S. E. Sheldon, W. S. Lindsay, H. K. Teft, W. H. Righter, G. A. Wall, C. C. Green, W. E. McVey and R. S. Magee, of Topeka.

Visitors—Drs. A. C. Davis, P. G. Sawyer, C. F. Menninger, E. V. Coldren, of Topeka; and Dr. Bickerford of California, Messrs. Gilbert, Dollman, Bigger, Frankinberger, Signor Barrabini.

New members—Drs. T. H. Hall of Alma, Rush Medical College, 1884; Dr. Wm. B. Dewees, Salina, University of Pennsylvania, 1877; Dr. P. Daugherty, Junction City, Rush Medical College, 1886; Dr. W. E. Ashby, Quenemo, Keokuk Medical College, 1873; Dr. L. J. Warren, Clay Centre, Harvard Medical College, 1879; Dr. Jeffrey Martin of Marion, Iowa State University, 1876.

Board of Censors—Drs. M. R. Mitchell, G. O. Morgridge and D. F. Rodgers.

The first paper of the evening was read by Dr. McCandless of Holton; "The best methods of Prevention of Summer Diseases of Children." He took the ground that a physician owed a duty to his patrons to carefully instruct them as to the best method of caring for children. Most of the sickness and deaths among children may be attributed to the ignorance or carelessness of the mother. He said pure, wholesome food, clothing adapted to climatic changes, plenty of exercise in the open air, and sleep were essential to healthy growth and the prevention of disease in children.

Dr. T. W. Peers congratulated the doctor upon his paper. The subject was a hobby to him as he was always interested in children, their training and care. It was a subject worthy of thought. If we could have laws preventing the marriage of parents who had pre-existing constitutional diseases, in a large measure we could curtail the endless suffering and physicial defects which come by transmission. Not enough attention given to maternal training of daughters. I have seen girls who when their first menstruation appeared were half scared to death at the sight of the flow; the mother by shameful neglect has failed to explain this to her daughter. Physicians should warn the mother as often as opportunity affords, and instruct them, for ignorance plays an important part in these diseases. With respect to foods, they should be sterilized. Parents complain about feeding milk, it is expensive and soon ferments in hot weather. Sterilization does away with this objection. Plenty of fresh air, sufficient clothing are very important requisites.

Dr. Rodgers—Sterilized milk alone will starve a baby to death. It will check diarrhœa and vomiting. Hospital experience proves this statement.

Dr. Tefft has had good success with sterilized milk. Prefers using the milk directly from the cow.

Dr. Mitchell—The physician is the educator of the people—a great responsibility. A word at a time will often be helpful. Should not throw off the responsibility, shifting it to

other shoulders. The physician should know these things and be ready at any and all times to give the needed advice when asked to do so. With respect to the dress the babe should not be dressed in thick heavy clothes in summer, causing it to swelter and roast. In bathing, should not bathe in a current of air, when the pores of the skin are open and skin warm, when a cold current would chill the entire body.

Dr. Lindsay would like to ask Dr. Rodgers the reason for his statement, why sterilized milk is so poor a nutriment? Has used condensed milk with success and it is a sterilized food.

Dr. Rodgers in answer to Dr. Lindsay's question said that sterilized milk would produce starvation in a child is a fact as a matter of investigation. He stated that in the Philadelphia hospital the experiment was tried and proven beyond a doubt. That unless the milk could be sterilized at a much lower temperature than it is done at present it is not a success. Heat precipitates the casein, which contains the fats and oils, &c., marked emaciation followed such feeding. But when fed fats and oils in addition they improved. Sterilized milk is a help, but lacks the essential nutriment. Autopsies of infants so fed showed anæmia of the intestinal tract.

Dr. McCandless—Physicians are negligent, do not consider the great responsibility in caring for the treasures committed to their charge. It is wholesome instruction and advice and not medicine that is needed. It increases in interest as we study the subject.

The society was then favored by the demonstration of circular anastomosis of the intestines by Dr. M. B. Ward of Topeka. The doctor preceded the operation by saying that "abdominal and intestinal surgery are inseparable. Many times we have intestinal complications to deal with in abdominal work. I have therefore thought it wise to do something by way of experimen tation in uniting severed intestines. Not entirely satisfied with any of the methods of lateral anastomosis, I have done my operations by the circular method. I believe circular enterorraphy gives promise of success and at the same time it is a simple procedure. No preparation is necessary aside from the ordinary aseptic precautions, but to carry a piece of rubber tubing about four inches long and one-third of an inch in diameter and an ordinary pocket case of instruments. I mention this because at any time we may be called upon to do an operation on the intestines, for traumatism when promptness in operating will avail much.

The operation I have done consists in scarifying the serous coat of the severed proximal end of the intestine and removing the mucous membrane from the distal end about one-half an inch. A rubber tube about four inches long and one-third of an inch in diameter is then introduced into the proximal end and fastened by a suture of fine silk carried by a cambric needle through the wall of the gut and tube. The tube is placed in the distal end and then the ends are "stovepiped" together the proximal in the distal end, and carefully and thoroughly united by interrupted Lambert sutures. After this is done the omentum is brought around the united intestine and fastened by a suture of fine silk. I have performed this operation only four times with three recoveries. The death was caused by using continued sutures. Perhaps operating the third time on the same dog within four weeks, had something to do with the fatal result. The autopsy, however showed the operation to be faulty, although at the time I did it, all present thought it a pretty operation.

The Secretary requested me to do an operation before the society to-night, but I have thought it would be of more interest to the members of the society to see the results of an operation.

I operated on this dog one week ago to-day. Drs. Donaldson, Green, Bailey, and Messrs Frankinburger and McClintock, medical students kindly assisted me. Mr. Frankinburger will now kill the dog with chloroform and I will expose the intestines for inspection. The fourth day he ate three pounds of beef. The tube passed the fifth day." The doctor then removed the piece of intestine where the anastomosis had been made showing perfect and complete union of the gut ends without any appreciable narrowing of the calibre of

the gut. The doctor was warmly applauded upon the success of the operation. He is to be congratulated because of exhibiting the result of his work rather than the operation, which was highly satisfactory and pleasing to all present.

Dr. Van Eman of Kansas City—Well pleased with such results. Entirely in favor of the circular operation. Less liable to cause narrowing of the lumen of the intestine. There is not a man present who is not fully satisfied as to the benefits to be derived from such an operation. Absolute cleanliness is the watch word.

Dr. Lyman asked the doctor if the application of the omentum was absolutely necessary.

Dr. Warren—An operation of this kind inspires me with new zeal and awakens a new interest. Every abdominal surgeon should bear in mind these two very important points, absolute cleanliness and free drainage. The interrupted suture is the one to use when close union is desired.

Dr. Morgridge admired the procedure. The result was highly commendable.

Dr. Ward in closing said he was very thankful for the commendations received. In answer to Dr. Lyman's query concerning the omentum, said that it gave protection aside from that he was unable to say. Dr. Warren struck the keynote of success when he mentioned drainage and cleanliness.

The next paper of the evening was by Dr. J. H. Van Eman of Kansas City, on "La Grippe." He held the ground that la grippe was due to a miasm, although he said some good authorities held it was the result of a germ. We know nothing of the causative agent that produces the pathological changes in the body. The disease not fatal in itself, only in its sequelæ, pneumonia, etc. Never heard of a single death from la grippe proper.

Dr. Stewart—I invariably examine the urine of these patients suffering from la grippe and find albumen in a large proportion of these cases. There is imperfect hepatic action. Parenchymatous degeneration of the kidneys is often produced from the suppression of poisonous materials, excreta. Supporting treatment is what is demanded.

Dr. Porter—Inclined to the opinion that the disease is due to a miasm and not a germ, it is a poison, the symptoms show this—headache, rigor, peculiar effect on the nervous system, self-limiting disease. Never saw a patient die from la grippe proper. The disease has a similarity to dengue, have wondered if it were not a modified dengue. I fear the sequelæ more than la grippe itself.

Dr. Minney—I would like to have the author of the paper state if more sequelæ follows this year than last. My experience has been that the sequelæ were on the increase. So many patients during the past winter date their eye and ear trouble directly to an attack of the la grippe. Probably a more virulent form only.

Dr. Daugherty would like to ask if different localities have anything to do with the character of the disease? In my locality it assumed the catarrhal form, almost entirely. No neurotic symptoms, no deaths, some had pneumonia. A self-limited disease, will get well without any treatment. Paliative treatment required; relieve the headache and nausea.

Dr. Van Emon in closing said that the grippe caused lowered vitality and lessened the powers of resistance and prepared the way for the easy ingress of other diseases. Do not think it favors dengue, the geographical line so closely drawn, is sufficient to separate the two. In answer to Dr. Minney thought the sequelæ this year not so abundant as last. The plague differs as to locality.

The Secretary of State Board of Health of Pennsylvania reports 1,000,000 cases in that State with 7,000 deaths, and the rapidity with which it traveled over the State showed conclusively that the air was the carrier. The disease assumed two forms, catarrhal and nervous. In manufacturing and commercial cities it assumed the nervous form, while in mining cities and districts the catarrhal attacked the mucous membrane. Called also fashionable fever amounting to little more than an ordinary cold in some. Lying-in-women do not do so well when suffering from an attack of grippe. The differential diagnosis, the temperature is out of all proportion to the severity of the disease.

Dr. W. E. Ashby of Quenemo, then read a

paper on "Malaria as a Causative Factor in the Production of disease."

The convention then adjourned to Frank Long's restaurant, where a banquet was prepared by the Topeka Academy of Medicine and Surgery. Several toasts were responded to, when the association adjourned to meet in the city of Leavenworth on invitation of Dr. W. J. Van Emon of that city, the second Monday of October, 1891.

R. S. MAGEE, Sec'y.

State Medical Society.

[Continued from page 224.]

Dr. C. H. Guibor presented the following amendments to the constitution, to be voted on at the regular meeting in 1892:

Sections 1 and 2 article III are hereby repealed:

Sections 1 and 2, article III, shall be as follows:

Section 1, The qualifications for membership in this State Society shall be, 1st the candidate must be a resident of Kansas and a respectable practitioner of medicine; 2nd, must have a good moral character, and 3d, must be a graduate of a reputable medical college and be recommended by two members in good standing in this society.

Section 2, All applications for membership shall require the affirmative vote of two-thirds of the members present at a regular meeting after the same shall have been reported by the censors. Membership to be completed on paying initiation fee and signing the Constitution and By-Laws.

Article X, Section 1 shall be as follows:

A board of five censors shall be appointed by the President at the annual meeting in 1892, for terms of 1, 2, 3, 4 and 5 years respectively, one member to be appointed annually thereafter, by nominating committee.

President J. E. Minney then delivered his address, subject, "Water as a Therapeutic Agent."

Dr. Martin remarked that cold baths are dangerous in heart diseases.

Dr. Cordier said he thought we should advise against the use of the so-called "Hall Treatment." He had known unfavorable results to follow this practice. Circulars are being sold to explain the treatment and advertise it, to people who are incompetent to appreciate the danger: we should therefore warn our patients of the harm that may result from its use.

Dr. Phillips mentioned the use of hot water in the treatment of recent sprains.

On motion of Dr. C. H. Guibor, it was ordered that each member register in the section in which he expects to work, that each section elect its officers for the ensuing year and that no member shall vote in more than one section.

Dr. C. C. Furley moved that a salary of fifty-four dollars be allowed Dr. Cochran for services as treasurer. Carried.

The president appointed Drs. Furley, Sawhill and Gardner, to constitute the Auditing Committee for the present vear.

On motion adjourned to meet at 9 A. M., May 14.

THURSDAY, MAY 14.

Society met at 9 A. M.

Dr. Shasted in behalf of the Committee on Credentials and Membership, reported, recommending the election of the following gentlemen to membership in this society:

Melvin Collins, Oxford.
Nannie Stephens, Wichita.
J. W. Porter, Litchfield.
A. C. Graves, Cherokee.
Thomas C. Biddle, Emporia.
E. E. Liggett, Oswego.
E. B. Rentz, Wichita.
Mary Gage Day, Wichita.
P. D. St. John, Wichita.
Robert J. Peare, Pleasanton.
Jacob Z. Hoffman, Wichita.
Alonzo Arthur Ward, Fulton.
D. R. Pelton, Topeka.
Philander Daugherty, Junction City.
William B. Dewees, Salina.
Grant Cullimore, Atchison.
John W. Maginis, Hutchinson.
James W. Kirkwood, Wichita.
J. S. Potter, Mt. Hope.
C. E. McAdams, Wichita.
L. Reynolds, Horton.
J. W. McCracken, Sterling.
Benedict J. Weatherby, Arlington.

W. S. Osborne, Baldwin.
A. C. Flack, Fredonia.
W. E. Barker, Chanute.
S. W. Spitler, Wellington.
Oscar L. Peak, Pratt.
T. W. Scott, Stafford.
C. M. Holcomb, Winfield.
James H. Seaton, Newton.
J. N. Venard, Ness City.
Henry Clay Tucker, Derby.
James N. Kitchersid, Hope.
Francis C. Herr, Ottawa.
O. J. Furst, Peabody.
J. A. Milligan, Greensburg.
J. H. Garey, Wilsey.
E. E. Hamilton, Wichita.
J. A. Mitchell, Arkansas City.

On motion they were declared elected.

SECTION ON SURGERY.

The surgical section was called to order May 15, at 9:25 A. M., by the chairman, A. H. Cordier, who read the opening address, taking for his subject, "Germicidal Power of Living Cells and Antiseptic Surgery."

During the reading of the address Dr. J. E. Minney, president of the society, presided.

The address was received by the society and referred to the committee on publication.

Dr. Gill of El Dorado, said that he thought the paper in full accord with the most advanced thinkers of the day.

The chairman then took up the regular program, calling upon Dr. Pelton of Topeka, for his paper "The Localization of Brain Function with Especial Reference to the Surgery."

The paper was received and referred to the committee on publication.

Discussion was opened by Dr. Fryer of Kansas City, who complimented the author, thought the subject of great importance, and called especial attention to brain tumors. One symptom, choked disk, when present as it was in the majority of instances was almost pathognomonic of a brain tumor. He also called attention to its importance in disease of the mastoid cells and visual sensation. He thought the centre for conjugate deviation was located in the pons.

Dr. Pelton in closing admitted that he had not covered all the points Did not intend to go into ocular surgery. Did not think the choked disk of quite so much importance, as it was found in many other conditions, meningitis, etc., etc., quoted Ranney as authority that the center of conjugate deviation was in the fissure of rolando, just anterior to the centre for the arm and leg movement. He thought that mastoid disease did not properly come under the head of affections of the brain.

The second paper was by J. M. Bibbee, M. D., of Wichita, on "Genito Urinary Surgery." He apologized for the paper as it was very hurriedly prepared; he did not know that anything was expected of him until he saw the published program.

He called especial attention to posterior urethritis, called attention to the location of the bladder sphincter; each urethra has an indivuality of its own, etc., etc. Dwelt upon the chronic inflammation went especially into the anatomy of the prostate body.

On motion the paper was received.

Dr. L. D. Jacobs of Emporia, then read the report of a case of urethrotomy and drainage.

After the reading of which the president remarked that unless there was some objection owing to the extreme length of the program, and for the purpose of hastening the work of the section all papers as read would be received and referred to the publishing committee.

The discussion was opened by Dr. McCullock of Independence. He thought there was no need for so dangerous an operation as cysotomy, that in view of the ease with which the female urethra may be dilated that this should and does apply to the male. He referred to several cases of stricture in the deep urethra that he had treated by rapid dilatation with the Otis instrument. He thought there was no danger in its use.

Dr. Davidson of Kansas City, did not think the class of cases spoken of by Dr. Jacobs, could be benefitted by dilitation, thought Dr. McCullock off the track, "he had got switched off in someway." Did not agree with McCullock that stretching the deep urethra was free from danger; could see no objection to the operation of cystotomy. It was the proper thing in the case reported, it was not especially dangerous, did not see the necessity of going through the perineum, thought the supra pubic operation preferable, complimented the writer of the paper.

Dr. J. M. Bibbee complimented the reporter of the case, thought cystotomy, the only thing to do, doubted the propriety of waiting so long, would prefer the median operation. Thought the small calibre of the urethra due to inflammation and not to stricture, would not do an internal urethrotomy in the deep canal.

Dr. Griffith of Kansas City, could not see the objection of Dr. McCullock, a gonococcal inflammation or an inflammation of the bladder depending upon clapp. After the bugs get into the bladder cannot see how you can cure it except by operation that shall secure drainage. You cannot drain a barrel from the top, preferred the perineum, at the same time paralize the neck of the bladder.

Dr. Jacobs in closing the discussion said he had nothing further to add; was much pleased with the discussion.

Dr. Gant of Kansas City, then read a paper on the "Injection Method for the Treatment of Pile Tumors," giving the results of his personal experience. the kinds of tumors and his methods.

The discussion was opened by Dr. Lyman of Manhattan, who complimented the author, thought the matter of great importance. Spoke of slughing due to strong injections; thought it made no difference whether you got into the tumor itself or the surrounding tissues. Thought you should go high above the external sphincter, never inject but one tumor. Sometimes injects three different tumors, one injection will destroy the tumor. Had had quite an extensive experience. Objected to having patient strain down, and referred to several cases treated by him in his practice. Did not think it caused pain; frequently had made the injection without the patient being aware of it.

Dr. Gant in closing, could not see the objection to having patient strain. Usually had no trouble in getting tumor down. Thought that the amount of pain caused, differed in different patients. Thought the doctor in his discussion did not give the paper sufficient attention, but devoted too much time to the discussion of his own cases.

Dr. C. A. McGuire of Topeka, then read the report of a case of "Empyea and its Surgery;" apologizing for some of the points in the paper, having laid the data away. It then being late it was moved and seconded that the section adjourn to meet at 2 P. M.

AFTERNOON SESSION.

At 2:30 P. M., the surgical section was called to order by the chairman, and Dr. J. T. Axtell was called upon for his paper on, "The Surgical Treatment of Strangulated Hernia," illustrating the subject by giving the history of several cases.

The discussion was opened by Dr. J. C. Mc Clintock. He could not see that tendons or tendinous tissue could be brought together so as to form firm union. Thought that the tissue could not be brought together closely enough even to secure union. He preferred the McBurney method of operation, allowing the sack to fill the canal, etc., etc., and allow the wound to heal by granulation.

Dr. Reynolds thought the grooved director for careful dissection should be discarded. For radical cure of hernia the simplest and probably the best method of operating is to always open the sack, draw it down sufficiently, when drawn down and tied, the distal end cut off, its stump retracts enough to obliterate the depression at internal ring, closing the incision by interrupted suture.

Dr. Gant of Kansas City, complimented the paper and the author, thought the operation for radical cure when operating for strangulated hernia should be done oftener; reported a case in point, which he thinks would have recovered had it been done; preferred silk worm for gut skin sutures.

Dr. Griffith of Kansas City, referring to the McBurney operation, inferred from Buel that it had not been any more successfully done than those in which the operation was simpler. Advocated the simplest method, the McHume for instance. Spoke of a case operated on by the McBurney method dying of tetanus.

Dr. Cordier of McPherson, referred to handling strangulated gut; thought an artificial annus should not be made. Would make an anastomotic operation at once.

Dr. Axtell in closing agreed that some tendons will not unite, quoted authority that two-thirds of them furnished as good results as any other. There is of course a varying

amount of inflammatory matter thrown out, it may have been the adhesion of sacks to peritoneum. Had never used silk worm gut on tendons. His method is much simpler than the McBurney. Does not think the time has come to say just which method is the best.

Dr. H. C. Gill then read a paper entitled, "Some Surgical Cases—consisting of a report of two cases of Empyema."

The discussion was opened by Dr. Martin. He had had quite an experience in the treatment of these cases. The doctor had brought out several important points. Objected to a large drainage tube, thought it might cause trouble.

Dr. Griffith of Kansas City, complimented the author. Cuts out section of rib to get perfect drainage, often using hot water to clean out cavity. Thought creatine the best dressing. Thought the after dressing of the wound was not given attention enough. Thought too much opportunity was given for bugs to get in from the outside.

Dr. McClintock of Topeka, was impressed that there was little use in washing out pleura. Get perfect drainage and you have it. Thought that to use an asperator was utterly useless unless it be in a child. Would use a double drainage tube. Thought that in the case reported luck had more than anything else to do with its recovery.

Dr. Gill in closing said that the society knew how great a believer he was in antisepsis and how careful he was in using these methods. Thanked the members for their full discussion of the paper.

Dr. L. H. Reynolds of Horton, then read a paper on the, "Surgical Relief of Retention of the Urine from Organic or Spasmodic Causes."

Dr. Griffith asked if the stricture was in the membranous portion of the urethra; said he had never seen a stricture there. He then quoted authority that they never were found there. Gave some special directions about the introduction of a catheter. Objected to the use of a metalic one. In inserting a soft catheter, enclose a stylet to prostate and simultanously withdrawing the stilet with an effort to forward the catheter.

Dr. Reynolds in closing, remarked that the method described by Griffith of introducing a catheter, was tried before resorting to other measures. The stricture in the second case, which completely closed the urethra was confined to the membraneous urethra.

Dr. J. C. McClintock of Topeka, reported under the head of "Spinal Surgery," with cases, two cases operated on by himself, in one of which he thought the operation had been of advantage.

Owing to the unavoidable absence of Dr. J. B. Hibben, on account of sickness, his paper on "Shock and Collapse," was read by the Secretary of the section. There being much business before the society the paper was received without discussion. The section proceeded to the election of officers for the ensuing year. Dr. Lyman of Manhattan, was elected president, and Dr. Morton of Merian, secretary. There being no further business before the section it adjourned to meet the following May at Fort Scott.

L. H. MUNN, M. D.,
Secretary Surgical Section.

To be Continued.

THE *Vis Medicatrix*, a bi-monthly journal of medicine, human and comparative, Vol. 1, No. 1, has been received. It is a journal of the Iowa State Medical Society, edited by Woods Hutchinson, A. M., M. D., with associate editors, L. H. Pammel, B. Agr., and S. Stewart, M. D., D. V. M. The first number contains the president's address, the proceedings of the fortieth annual session of the State Society, a paper in the section of practice, and editorial matter. As its name implies it contains a department of veterinary and one of plant disease and bacteriology, and much other matter. It is a nice looking journal and we are sure the Iowa State Medical Society will be pleased with this new venture.

THE Alabama State Medical Society repudiates the section of the code of ethics of the American Medical Association, which prohibits consultation with members of other schools.

FOR blackheads it is recommended to sponge the body from head to foot with a saturated solution of bi-carbonate of soda.

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TOPEKA, KANSAS, JULY, 1891.

Some Remarks on Summer Diseases of Children and How to Manage Them.

Why should the alimentary tract of children be more often disturbed in summer than in winter? Heat is a factor in causing bowel trouble, not *per se*, but when long continued it dilates the blood vessels by its depressive effect upon the nervous system, and in this way enfeebles the circulation. An enfeebled circulation means poorly nourished tissues from lack of proper blood supply. Lowered vitality is the result. The life force is weakened and the food is not properly digested or prepared for tissue building, and a normal stimulus (the food) becomes an irritant to the mucous membrane of the alimentary canal. Irritation sooner or later results in inflammation. The pathological condition of the mucous membrane, together with the evaporation from the skin and the increased drain of fluid from the other connectories due to the heat, makes an increased demand for water by the tissues.

This want is made known to the child by thirst. The child's desire is immediately made known to the nurse and if not satisfied there is no peace in that household. The mother's milk or cow's milk or other artificial fluid food is given in quantities and at intervals, which would not have been tolerated by the digestive apparatus in health, and thus fuel is added to the flame.

The microbe was not in this case the causative agent, *per se*. Dr. Evans of Cincinnati says, "these micro-organisms do a work in nature that should not be underrated; as a class they do us much more good than harm. They are the tireless workers in nature's laboratorium, without which we and all other animal and vegetable life would die. Remove the bacteria from the face of the globe and the earth would assume the aspect of the moon—chaos would reign supreme. They alone prepare the foods on which animal life ultimately depends."

The above principle Dr. Schenck of the JOURNAL has advocated for some years. So much by way of parenthesis.

The child is sick. The parents are poor. The house consists of one or two rooms. There are four or five children in the family. The pig pen, water closet, if any, corral and horse stable, are near the house. The water closet may be wanting and the children go behind the house near the bed room window to relieve nature. You have had your shoes soiled by going back there in a consultation. The olfactory sense, if not the sight or feeling having apprised you of the presence of the detritus. The weeds were high at this particular place affording shelter from view. The well served as a kind of cesspool to drain the surrounding unsanitary surface. The first thing that greets you on that hot night as you enter the house is the odor of sweating human beings and vitiated air with an admixture of diseased discharges from the diapers by the side of the bed, or poorly cleaned up discharges from the floor. The bowel trouble has continued from four to six weeks. The child is emunciated, big eyed and looks twice its age, for it is only six months' old and is teething.

Under such circumstances what would the physician be strongly tempted to do? Prescribe for the child, give some directions and get out of the house, feeling relieved and thankful to get a breath of fresh air. Should

conscience be perturbed he might try to quiet it by saying, "My instructions would not be carried out if I should direct and even assist them in making all necessary provision for the mother and child so far as they are able. They are dirty, filthy, careless creatures, and used to such a manner of living. It is natural to them, and I am not expected to be doctor and nurse. I'll do my duty as a physician and they must do theirs or suffer the consequence."

Is this a reasonable excuse? A fellow once tried to evade responsibility by saying, "The woman gave me to eat." The objection was overruled, and he received censure equally with the first transgressor.

The responsibility is with the physician to do all he knows, and insist upon it that his directions are fulfilled. If he is too lazy, or careless or indifferent, he should quit the case and let some other physician or grandmother take charge.

The physician must do the best possible thing under the circumstances. If he shows a deep interest in the case, and is kind but firm in his demands—first by direction, second by persuasion, and then if necessary by commanding, assigning plain reasons for the course to be pursued, the mother soon agrees and the father can usually be scared into obedience. Nine times out of ten the physician retains the case and often saves a patient that otherwise would have perished, and adds deservedly to his good name.

What should be done in such a case, it being a grave one? A careful examination should be made of the case, and plain, simple directions should be written out for the nurse. If the skin is dry, hot and harsh, a tepid sponge-bath should be ordered every one or two hours. Food should be given at stated times, not more frequent than two hours. During the interval if the child demands it, an ounce or more of cold water if the stomach tolerates it may be given. If the water is suspicious it should be boiled and let cool before using. If the child is restless and uneasy a half-drop of the fluid extract of gelsemium may be given in a teaspoonful of water every thirty minutes, or from one to three drops of Squibb's liquid Dover powder every hour for two or three doses, unless quiet or sleep is induced, or one-tenth of a grain of calomel triturated in milk sugar every hour when the child is awake, until the visit the next day. If the food as shown by the discharges passes undigested, pepsin should be given with the meal. If the child sleeps natural it should not be awakened to give it food or medicine short of from four to six hours, unless there are signs of exhaustion. Where there is stupor the foregoing instructions do not apply, and the calomel treatment is preferable, for in either case the bowels act from ten to twenty times in twenty-four hours. The nurse is cautioned about the danger to the other children, or the child itself, of letting the soiled diapers, clothing or bed-clothing remain in the house, or for the discharges to be thrown on the ground near the house for the heat of the sun upon them poisons the atmosphere.

The child must sleep in a cot by itself. The doors and windows of the house must be open night and day. The mother cannot do the housework—ironing, washing, milking, churning, any or all, and take care of or furnish food for the child. When the effect is pointed out some friend or neighbor will busy herself in interesting others to lend a helping hand until the danger is over.

By the next day, or the second at farthest, should there be no improvement in the child, and the sanitary conditions cannot or are not decidedly improved, a change must be made. The child must live outdoors. A favorable location must be selected and a tent improvised, (tenting, wagon cover, sheets or bed-quilts) to protect from the rays of the sun, and a bed put in it and the nurse and child kept there and provided for. This is applicable to the country or the poor of a city. With such sanitary surroundings, careful nursing and feeding, but little medication is required.

In the early stage, and sometimes late in the disease, a teaspoonful or two of castor oil, with two drops of the tincture of opium to prevent griping is of benefit. If relief does not follow it should not be often repeated, for depletion in such a wasting disease is not tolerated by the system. If there is periodicity, quinine one-half to one grain every

three hours in yerba santa or quinine chocolates, until three or four grains are given during the well day.

Other therapeutic agents suggest themselves; in fact too many. The greater difficulty is to determine what not to give and what to do. The food and surroundings are the prime factors in the treatment of these troubles.

In giving necessary directions do not say it would be better, or it should be done, but use the words *must* and *cannot*.

A number of formulæ are given in the JOURNAL this month, and in other journals at this season of the year. They are recommended by some of the leading therapeutists. We believe the great mass of these prescriptions are practically worthless, and many of them harmful. They are shotguns in their nature. Not that we are infidel in medicine, but believe one agent at a time, properly selected, administered and watched, together with diet, baths and improved sanitary surroundings, will give better results.

The physician who will exert himself an hour or two in assisting and showing how the minutiæ is to be carried out will be richly rewarded for his trouble. Some old fogy or dude doctor may call him granny or nurse, but success will answer all such aspersions.

Semoli on Koch.

In some recent utterances of Semoli on Koch's treatment he says: "Koch ought to have matured his observations longer and better before making the communication he made on November 13, 1890, to the Medical society of Berlin. It might have led to some real good for humanity and advantage to science.—*Times and Register*, May 30.

In the December, (1890) number of THE JOURNAL we said "Koch proposes inoculation, so did Jenner, but he awaited the abundant proof of twenty years before he announced vaccination the prophylaxis of variola, and his fame will grow brighter through each succeeding century. Koch does not wait for the centuries but seizes the fleeting glory of the passing hour." Whatever there may be in "Koch's method" it is not Jennerian.

Medical Fees.

One J. W. Smith, representing an old town named after one of the kings of a defunct civilization, introduced a bill into the last session of the Missouri legislature providing that no physician in the state should charge more than *one dollar* for a visit between the hours of 8 a. m. and 9 p. m., or more than *fifty cents* for an office prescription. This particular Smith must have been raised on the short commons of a medical school in his town that creates an M. D. on a fortnight's attendance, or at best one that insists upon a two years' course, and is not aware that continued culture has produced a better menu.

Because there is one Smith whose services may not be worth more than ten cents an hour, would it not be hard on the rest of that numerous family to provide by law that no other Smith should receive more. But the bill did not pass. As the Big Muddy, that flows through the state, gives character to the stream on which the old town stands, so the rural districts and the western border gave character to the legislation of the state. Law will never be able to level genius to the plane of idiocy. While there will always be cheap politicians and cheap doctors merit will be recompensed.

THE annual meeting of the Northern Kansas Medical Society was held in Seneca on May 28. In addition to the regular programme valuable contributions were made by Drs. Jacob Geiger, of St. Joseph, Mo., and J. C. McClintock of Topeka. Drs. C. M. Balfour, Morrill, and J. F. Sechrest, Oneida, were admitted to membership. The election of officers for the ensuing year resulted in the choice of Samual Murdock, M. D., Oneida, president; J. J. Everhard, M. D., Seneca, vice-president; W. W. Wacheter, M. D., Baileyville, sec'y; E. B. Slosson, M. D., Sabetha, treas'r. The next regular meeting of the society will occur November 12, of which formal notice will be given through the JOURNAL.

JAMBUL is recommended in the treatment of diabetes. It is claimed that it controls the excretion of sugar without the necessity of restricting the diet.

LITTLE THINGS.

Slacked lime is a good disinfectant.

Skin grafting by machinery is the latest.

Dr. Fordice Baker of New York is dead.

Hot water injections are recommended for pelvic pains.

Dr. Morris of Lawrence, was a welcome visitor in June.

Cephalæmatoma should be let alone unless suppuration sets in.

Immunity from disease is only acquired by actually having the disease.

Drs. Warren and Morgan of Clay Center, were Capital visitors last month.

Rely upon cold in reducing the hyperpyrexia of rheumatism, and not on drugs.

Crude petrolium is recommended by M. Trosseau of Paris, in conjunctivitis.

Dr. Schenck is giving Koch's Lymph a trial at Christ's Hospital, on two cases.

Is inheritance an immunity from the poison and not a transmission of disease?

We believe it is admitted by all that an operation in typhoid perforation is useless.

The Illinois legislature has passed the bill appropriating $700,000 for the World's Fair.

For fissured nipples equal parts of caster oil and sub-nitrate of bismuth; is highly recommended.

Dr. Felty of Abilene made a pleasant call last month. He left the Journal the following tonic—$2.

There is no immunity from disease which comes from a natural strain of strong blood. —Dr. Keeley.

Dr. D. B. Colcord has removed to 603 Kansas avenue, with L. Y. Grubbs, M. D., succeeding Dr. Cazier.

Dr. Semmola of Italy, declares that Koch's Lymph is a failure in curing tuberculosis, and as a means of diagnosis.

Vaccination by injecting virus under the skin with a hypodermic syringe is advocated by a Japanese physician.

An exchange says the daily instillation, into the eyes, of a solution of one part of potassium iodide in two hundred parts of distilled water, persisted in for a long time will relieve muscæ volitantes.

Wiring of the vertebra is now coming into vogue. It has been done several times with good results.

The Academy of Medicine, Kansas City, Missouri, celebrated its first annual birthday, March 1, 1891.

It is stated that the smell of iodoform can be quickly removed from the hands by washing in flax seed meal water.

Dr. Rademake claims that uræmic poisoning in Bright's disease, is due to urethane which is a powerful narcotic.

Prof. J. M. DaCosta has resigned the chair of Practice of Medicine in the Jefferson Medical College, Philadelphia.

In rupture of the parturient uterus cœliotomy should be done early, within an hour or two if possible after the accident.

The boro glyceride vaginal pledget is almost universally employed by Prof. W. Gill Wylie of the Polyclinic, New York.

Jacobi thinks idocy and epilepsy are caused many times by accidents at birth. Forceps in unskilled hands causing hemorrhages.

Professors Kinsman, Dunham, Waters, Medburg and Allen have resigned from the faculty of the Columbus Medical College, O.

Dr. A. Beasley of Lyndon, has returned from Ogdon, Utah, well satisfied with Kansas. We welcome the doctor to his Kansas home.

Dr. Sheldon claims excellent results with the three chlorides iron, zinc and arsenic in chorea and anæmia. Dose, from one to two drachms three times daily, after meals.

Dr. Hammond's treatment of chorea—mild cases, is Fowler's solution of arsenic, cod-liver oil and fatty foods, with plenty of outdoor exercise, avoiding excitement. In grave cases he confines the child to bed.

Memphis, Tenn., is successfully competing, owing perhaps to her more southern locality, with Omaha, Neb., in the preparation of her citizens for the underworld. She reports a patient whose temperature runs to 158° daily and then breaks the thermometer. Omaha stopped short of 151°.

DR. CAZIER of our city has secured a partnership with one of the leading law firms in Racine, Wis. We are sorry to lose the doctor and his estimable lady, but with his qualifications in medicine and law we predict for the doctor a brilliant future in his chosen field.

THE *Dixie Doctor* is responsible for the following: "The fluid extract of saw palmet to berrries—five to ten drops, three times a day, has a special action upon the glands of the reproductive organs, tending to increase their activity, to promote their secreting faculty and add greatly to their size."

DR. S. LYMAN of Manhattan, Reynolds of Horton, Ashby of Quenemo, Daugherty of Junction City, Van Eman of Leavenworth, McCandless, of Holton, and Drs. Porter and Van Eman of Kansas City, Mo., were Topeka visitors in June.

A DEPARTEENT for teaching the science and practice of invalid cooking has been organized in the Johns' Hopkins Hospital Training School for Nurses, in charge of Miss Hungate, the superintendent.—*S. M. Surgical Journal.*

DR. JOHN B. HAMILTON, Surgeon General of the Marine Hospital Service, has resigned and has accepted the chair of surgery in Rush Medical College, Chicago. Dr. Hamilton is a force; a man of indomitable courage and will power, and not only Rush Medical college, but Chicago and the west should congratulate themselves on this acquisition.

A DR. KEELEY of Dwight, Illinois, has a three column article in the *Chicago Tribune* of June 6, (paid no doubt), telling of his wonderful cures of dipsomania. The usual letter of endorsement is there with all the finger marks of the arrant charlatan. In fact the whole editorial is evidently one of his own getting up.

DR. M. H. CAZIER of this city has retired from the practice of medicine to engage in the practice of law at Racine, Wis. Dr. or *Mr.* Cazier, as he must now be addressed, is well known throughout the State as one of its eloquent and forcible public speakers. He has made adequate preparation for the bar, including a course in the law school of Columbia College, New York, is admitted to all the courts, and we commend him to the people of Wisconsin as a man of integrity and honor.

THE City Board of Health (Drs. Maguire, Williamson and Bradley), were called to a suspected case of small-pox, in a newly arrived Polish Jew family last month, which, fortunately, proved to be chicken-pox. Of the three or four cases of small-pox in the city during the past year, occurring in as many different localities, owing to the prompt action of the board in detecting and quarantining the cases, in each instance it has been confined to the one home and family. No better work can be done.

DR. WILLIAMSON made a practical report on the use of the microscope in diagnosis, at the last meeting of the Academy. It will be published in its turn in the JOURNAL.

PARENCHYMATOUS aspiration (*O. M. Times*) is a new method of diagnosis, consisting essentially in withdrawing, by means of a hypodermic syringe, certain products from pathological formations in solid tissues, and the examination of these products by the microscope.

Doctor,

Have you tried the electric breast pump to provoke labor pains?

Do you believe it had been better for womankind had the uterine sound never been invented?

That Emmet's operation for larcerated cervix should in the main fall into disuse.

That splitting up the cervix for sterility and dysmenorrhœa should be abandoned?

Skene says, "young persons stand removal of the ovaries badly. They become fat, irritable, indolent and dissatisfied."

Dr. Ward says, "in chronic ovaritis use salines."

Dr. Morgridge claims good results in chronic suppurative otitis, with pyoktanin.

Obituary.

Died.—In Kensington, Kansas, on May 18, 1891, at 2 o'clock A. M., Mrs. Flora B. Nelson, aged 24 years, wife of our esteemed friend, Dr. C. E. Nelson.

PUBLISHER'S COLUMN.

Seasonable Remedies.

Among seasonable remedies, which are supplied by Parke, Davis & Co., are the following:

Chloranodyne, which is an excellent antispasmodic and anodyne in diarrhœal disorders, gastric troubles and intestinal colic. It combines the therapeutic virtues of morphine, Cannabis indica, chloroform, capsicum, hydrocyanic acid, alcohol, glycerin, and oil of peppermint. It is an improvement upon Chlorodyne, a patented preparation, widely dispensed as an anodyne and antispasmodic.

Liquid Acid Phosphate, the action of which is to relieve symptoms of nervous exhaustion, depression, sleeplessness, melancholia, and increase the vitality. This action is so well recognized that the Acid Phosphate is in considerable demand as a stimulating beverage.

The ordinary dose of the Liquid Acid Phosphate is one-half to one fluidrachm, in a glass of water, sweetened or not, according to taste. With carbonic acid water and any suitable syrup, it forms a refreshing and agreeable beverage.

Lime Juice and Pepsin is a grateful refrigerant and anti scorbutic. It is a prophylactic against many disorders prevalent in the summer months.

LACTO-PREPARATA as manufactured by Reed & Carnrick, is destined to become the ideal baby food of the day. Evaporated within a few hours after leaving the udder, sufficient mi k-sugar added to make it correspond with breast milk, the casein partially predigested, the whole then perfectly sterilized and placed in hermetically sealed cans, renders it as perfect a counterpart to the breast milk of any we know of.—*The North American Journal of Homœpathy.*

FOR SALE.—A very fine Hartnock microscope with 3 object lenses and 3 eye pieces, sub-stage condenser, &c., very cheap. Also, a new Tobold Laryngoscope and Mirrors in case. Address this office.

PARK, DAVIS & CO., have prepared solutions of chemically pure iodine and chloride of gold and sodium and will furnish physicians reports of the method of using these remedies in the treatment of tuberculosis as advocated by Gibbes-Shurly.

A Maltese Cross.

It was under the banner of the Maltese cross that the Crusaders of the middle ages vanquished the followers of the Crescent, and this form of cross was adopted by the Hospitallers of the Order of the Knights of St. John of Jerusalem, who were among the first founders of institutions established to ameliorate the physical ills of mankind. After their occupation of the Island of Malta, which they held for centuries against the assaults of the Infidel, this symbol came to be known as the "Maltese Cross." It is emblematical of the success of merit, of practical benefit to mankind, and of ability to resist attack.

The Maltine Manufacturing Company, have adopted a most beautiful design of the Maltese Cross in the advertisement of their well known *Maltine*, a most appropriate emblem of its worth.

Messrs. Renz & Henry:—I have frequently used your three chloride elixir and find it entirely reliable. It is one of the happiest combinations of all the preparations now on the market.

Respectfully,
X. B. HAYNIE, M. D.

FOR SALE.—A Canton Chair, second hand, in good order, at a sacrifice. Address this office.

ONE OF THE BEST TONICS.—Sunlight—Have the patient lie in bed half an hour a day with Sol's face beaming upon him—"simply this and nothing more."

THE following will cure gonnorrhœa in twenty-four hours, does not require a second application often:

Zinci sulph.	grs. x.
Hydras sulph.	grs. iij.
Aq. bullientis	q. s. fl.
Et. H. Sol. Et.	oij. M.

Sig.—Wash the urethra out well once in twenty-four hours. RIGHTER.